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38.24 - Prepared binders for foundry moulds or cores; chemical products and preparations of the chemical or allied industries (including those consisting of mixtures of natural products), not elsewhere specified or included (+).

3824.10 - Prepared binders for foundry moulds or cores

3824.30 - Non-agglomerated metal carbides mixed together or with metallic binders

3824.40 - Prepared additives for cements, mortars or concretes

3824.50 - Non-refractory mortars and concretes

3824.60 - Sorbitol other than that of subheading 2905.44

- Mixtures containing halogenated derivatives of methane, ethane or propane :

3824.71 - - Containing chlorofluorocarbons (CFCs), whether or not containing hydrochlorofluorocarbons (HCFCs), perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs)

3824.72 - - Containing bromochlorodifluoromethane, bromotrifluoromethane or dibromotetrafluoroethanes

3824.73 - - Containing hydrobromofluorocarbons (HBFCs)

3824.74 - - Containing hydrochlorofluorocarbons (HCFCs), whether or not containing perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs), but not containing chlorofluorocarbons (CFCs)

3824.75 - - Containing carbon tetrachloride

3824.76 - - Containing 1,1,1-trichloroethane (methyl chloroform)

3824.77 - - Containing bromomethane (methyl bromide) or bromochloromethane

3824.78 - - Containing perfluorocarbons (PFCs) or hydrofluorocarbons (HFCs), but not containing chlorofluorocarbons (CFCs) or hydrochlorofluorocarbons (HCFCs)

3824.79 - - Other

- Mixtures and preparations containing oxirane (ethylene oxide), polybrominated biphenyls (PBBs), polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or tris(2,3-dibromopropyl) phosphate :

3824.81 - - Containing oxirane (ethylene oxide)

3824.82 - - Containing polychlorinated biphenyls (PCBs), polychlorinated terphenyls (PCTs) or polybrominated biphenyls (PBBs)

3824.83 - - Containing tris(2,3-dibromopropyl) phosphate

3824.90 - Other

This heading covers :

(A) PREPARED BINDERS FOR FOUNDRY MOULDS OR CORES

The heading covers foundry core binders based on natural resinous products (e.g., rosin), linseed oil, vegetable mucilages, dextrin, molasses, polymers of Chapter 39, etc.

These are preparations for mixing with foundry sand to give it a consistency suitable for use in foundry moulds or cores, and to facilitate the removal of the sand after the piece has been cast.

However, dextrans and other modified starches, and glues based on starches or on dextrans or other modified starches are classified in **heading 35.05**.

(B) CHEMICAL PRODUCTS AND CHEMICAL OR OTHER PREPARATIONS

With only three exceptions (see paragraphs (7), (19) and (32) below), this heading **does not apply** to separate chemically defined elements or compounds.

The **chemical products** classified here are therefore products whose composition is not chemically defined, whether they are obtained as by-products of the manufacture of other substances (this applies, for example, to naphthenic acids) or prepared directly.

The **chemical or other preparations** are either mixtures (of which emulsions and dispersions are special forms) or occasionally solutions. Aqueous solutions of the chemical products of **Chapter 28** or **29** remain classified within those Chapters, but solutions of these products in solvents other than water are, apart from a few exceptions, excluded therefrom and accordingly fall to be treated as preparations of this heading.

The preparations classified here may be either wholly or partly of chemical products (this is generally the case) or wholly of natural constituents (see, for example, paragraph (24) below).

However, the heading **does not cover** mixtures of chemicals with foodstuffs or other substances with nutritive value, of a kind used in the preparation of certain human foodstuffs either as ingredients or to improve some of their characteristics (e.g., improvers for pastry, biscuits, cakes and other bakers' wares), provided that such mixtures or substances are valued for their nutritional content itself. These products generally fall in **heading 21.06**. (See also the General Explanatory Note to Chapter 38.)

This heading also **excludes** mercury compounds (**heading 28.52**).

Subject to the above conditions, the preparations and chemical products falling here include :

- (1) **Naphthenic acids** (by-products of the refining of certain petroleum oils and of certain oils obtained from bituminous minerals), **and their salts, other than** the water-soluble naphthenates of **heading 34.02**, and salts of **headings 28.43 to 28.46 and 28.52**. The heading covers, for example, calcium, barium, zinc, manganese, aluminium, cobalt, chromium, lead, etc., naphthenates, some of which are used for the preparation of driers or additives for mineral oils, and copper naphthenate used for the preparation of fungicides.
- (2) **Non-agglomerated metal carbides** (tungsten carbide, molybdenum carbide, etc.) mixed together or with metallic binders (such as cobalt), for the manufacture of the tips or the like for tools of heading 82.09.

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- (3) **Prepared additives for cements, mortars or concretes**, for example, anti-acid additives with a basis of sodium or potassium silicate and sodium or potassium fluorosilicate, and waterproofing preparations (whether or not containing soap), e.g., based on calcium oxide, fatty acids, etc.
- (4) **Non-refractory mortars and concretes**.
- (5) **Sorbitol other than that of heading 29.05**.

This category covers, in particular, sorbitol (D-glucitol) syrups containing other polyols and in which the D-glucitol content normally ranges from 60 % to 80 % of the dry matter. Products of this kind are obtained by the hydrogenation of glucose syrups having a high disaccharide and polysaccharide content, without any separation process having taken place. They have the characteristic of being difficult to crystallise and are used in a wide variety of industries (e.g., food, cosmetics, pharmaceuticals, plastics, textiles).

Sorbitol meeting the requirements of Note 1 to Chapter 29 is classified in **heading 29.05**. Sorbitol of this kind is usually obtained by the hydrogenation of glucose or invert sugar.

- (6) **Mixtures of calcium carbide, calcium carbonate (limestone) and other materials** such as carbon or fluorspar, prepared for use as a desulphuriser in steel-making.
- (7) **Cultured crystals (other than optical elements)** weighing not less than 2.5 g each, of magnesium oxide or of the halides of the alkali or of the alkaline-earth metals (calcium or lithium fluoride, potassium or sodium chloride, potassium bromide, potassium bromide, etc.). Optical elements of cultured crystals are **excluded (heading 90.01)**.

Cultured crystals (**other than** optical elements) weighing less than 2.5 g each, are classified in **Chapter 28, heading 25.01** (sodium chloride crystals) or **heading 31.04** (potassium chloride crystals).

- (8) **Petroleum sulphonates**, not water-soluble, obtained from petroleum or petroleum fractions by sulphonation, for example, with sulphuric acid, oleum or sulphur trioxide dissolved in liquid sulphur dioxide, this process usually being followed by neutralisation. Water-soluble petroleum sulphonates, e.g., of alkali metals, of ammonium or of ethanolamines are, however, **excluded (heading 34.02)**.
- (9) **Polychlorobiphenyls** (mixtures of chlorinated derivatives of biphenyl) **and chloroparaffins**.

Solid polychlorobiphenyls and solid chloroparaffins having the character of artificial waxes are, however, **excluded (heading 34.04)**.

- (10) **Poly(oxyethylene) (polyethylene glycol)** with a very low molecular weight, e.g., mixtures of di-, tri- and tetra(oxyethylene) glycols.

All other types of poly(oxyethylene) (polyethylene glycol) are, however, excluded (**heading 39.07** or, if having the character of artificial waxes, **heading 34.04**).

- (11) **Mixtures of mono-, di- and tri-, fatty acid esters of glycerol**, used as emulsifiers for fats.

Those which have the character of artificial waxes are, however, **excluded (heading 34.04)**.

- (12) **Fusel oil**, which is obtained in the rectification of crude ethyl alcohol.

- (13) **Dippel's oil** (bone oil, animal oil, Jeppel's oil) obtained by destructive distillation of the bones or horns of ruminants. It is a blackish liquid, extremely viscous and with a fetid odour, chiefly used in the preparation of insecticides or pyridine bases.
- (14) **Ion-exchangers** (including base or acid exchangers) **other than** polymers of **Chapter 39**. These are insoluble compounds which, when brought into contact with a solution of an electrolyte, exchange one of their own ions for one of those contained in a substance dissolved in that solution, this property being of value industrially, e.g., for removing the calcium or magnesium salts from hard water intended for boilers, for the textile or dyeing industries, for laundries, etc. They are also used to convert salt water into drinking water, etc. Artificial zeolites (whether or not chemically defined), except those containing binders are, however, **excluded (heading 28.42)**.
- (15) **Anti-scaling compounds** usually based on sodium carbonate, sodium silicate, tannin, etc. These compounds, added to hard water, precipitate most of the dissolved calcium and magnesium salts, thus preventing the formation of calcareous deposits in boilers, the tubes of steam generators and other apparatus through which water circulates.
- (16) **Oxylith** (or oxygen stone), prepared by adding small quantities of products such as copper or nickel salts to sodium peroxide. This regulates the release of oxygen on immersion in water. Oxylith is often in the form of cubes or slabs.
- (17) **Additives to harden varnish or glue**, e.g., mixtures of ammonium chloride and urea.
- (18) **Getters for vacuum tubes**, with a basis of barium, zirconium, etc. These getters are usually put up in pastilles, tablets or similar forms, or on metal tubes or wires.
- (19) **Ink-removers put up in packings for retail sale**. These are usually aqueous solutions of chemically defined compounds. In some cases a single compound may be used (e.g., an aqueous solution of chloramine), but in others, two with complementary functions may be necessary. In the latter case, two bottles may be provided in the same package, one containing, for example, an aqueous solution of sodium hydrogensulphite and the other an aqueous solution of potassium permanganate.
- (20) **Stencil correctors put up in packings for retail sale**. These are usually pink cellulose varnishes and are put up in small bottles the caps of which are generally provided with a small brush.
- These varnishes are **excluded** from this heading when not put up for retail sale as stencil correctors. Organic composite thinners for these varnishes fall in **heading 38.14**.
- (21) **Correcting fluids put up in packings for retail sale**. These are opaque (white or otherwise coloured) fluids consisting essentially of pigments, binders, and solvents, used for masking errors or other unwanted marks in typescripts, manuscripts, photocopies, offset printing masters or the like. They are usually put up in small bottles (the cap of which is usually provided with a small brush), in tins or in the form of pens.

Organic composite thinners for these fluids fall in **heading 38.14**.

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- (22) **Correction tapes put up in packings for retail sale.** These are rolls of correction ribbons generally presented in a plastic dispenser, used for masking writing or typewriting errors or other unwanted marks in typescripts, manuscripts, photocopies, offset printing masters or the like. These products are available in different tape widths and lengths. The correction ribbon is composed of an opaque pigment coating which is applied on the surface of the ribbon. The coating is applied manually by pressing a transfer head on the part to be corrected.

The heading **excludes** :

- (a) Correction tapes composed of paper with an adhesive backing (**Chapter 48**)
- (b) Mixtures Typewriter or similar ribbons, inked or otherwise prepared for giving impressions

- (23) **Preparations used mainly for clarifying wines and other fermented beverages.** These generally have a basis of poly(vinyl pyrrolidone) or gelatinous or albuminous substances such as isinglass, gelatin, carrageen moss or egg albumin. However, those containing enzymes are **excluded (heading 35.07)**.

- (24) **Compounded extenders for paints.** These are prepared powders often added to paints (other than distempers) to reduce their cost and at the same time, in some cases, to improve certain properties (e.g., to facilitate the spreading of colouring pigments). They are also used in the manufacture of distempers, but in this case they act as pigments. These preparations consist of mixtures of two or more natural products (chalk, natural barium sulphate, slate, dolomite, natural magnesium carbonate, gypsum, asbestos, mica, talc, calcite, etc.), of mixtures of these natural products with chemical products, or of mixtures of chemical products (e.g., mixtures of aluminium hydroxide and barium sulphate).

This category also includes finely ground natural calcium carbonate ("Champagne white"), each particle being coated, by a special treatment, with a water-repellent film of stearic acid.

- (25) **Preparations for the manufacture of certain ceramic articles** (artificial teeth, etc.), e.g., mixtures with a basis of kaolin, quartz and feldspar.
- (26) **Fusible ceramic firing testers** (Seeger cones, etc.). These are usually in the shape of small pyramids, formed of mixtures of substances similar to those in ceramic pastes and vitrifiable preparations. Their composition has been worked out so that they soften and collapse at a given temperature, and can thus be used for controlling the firing of articles such as ceramic ware.
- (27) **Soda-lime**, prepared by impregnating pure lime with sodium hydroxide and used to absorb carbon dioxide in re-breathing anaesthesia systems, in submarines, etc. The heading **excludes** soda-lime put up as a laboratory reagent (**heading 38.22**).
- (28) **Hydrated silica gel coloured with cobalt salts**, used as a desiccating agent which indicates by its colour when it is no longer operating.
- (29) **Anti-rust preparations.** These may be preparations based on, for example, phosphoric acid which acts chemically in the prevention of rust.

Anti-rust preparations based on lubricants fall in **heading 27.10** or **34.03**, as the case may be.

- (30) **Preparations (e.g., tablets), consisting of saccharin or its salts and substances such as sodium bicarbonate (sodium hydrogencarbonate) and tartaric acid**, not being foodstuffs, used for sweetening purposes.
- (31) **Salt for curing or salting**, consisting of sodium chloride with added sodium nitrite (nitrited salts) or sodium nitrate (nitrated salts).

The same products containing added sugar are classified in **heading 21.06**.

- (32) **Certain unmounted cut elements of piezo-electric materials (other than quartz, tourmaline, etc., of heading 71.03 or 71.04).**

The materials most commonly used for the production of the piezo-electric elements of this heading are :

- (a) Rochelle salt (or Seignette salt, i.e., potassium sodium tartrate tetrahydrate); ethylenediamine tartrate; orthophosphates of ammonium, rubidium or caesium or mixed crystals thereof.
- (b) Barium titanate; lead zirconate titanate; lead metaniobate; lead strontium titanate zirconate; calcium titanate; etc.

The elements are obtained by precision cutting, relative to their electrical axes, of high quality cultured crystals. Prior to cutting such crystals fall in their appropriate headings in **Chapter 28** or **29** if they constitute separate chemically defined compounds; otherwise they fall in this heading.

The heading also covers polycrystalline polarised elements of the products cited in subparagraph (b) above, **provided they are unmounted**.

- (33) **Anti-slip transmission belt preparations** consisting of fatty substances, abrasives, etc., even if containing 70 % or more by weight of petroleum oils or of oils obtained from bituminous minerals.
- (34) **Intermediate products of the manufacture of certain therapeutic substances (for example, antibiotics)**, obtained with the aid of micro-organisms by fermentation, filtration and first stage extraction, generally containing not more than 70 % of active substances; for example, "alkaline cakes", which are intermediate products of the manufacture of chlorotetracycline (aureomycin) and which consist of inactive mycelium, filter aids, and 10 % to 15 % of chlorotetracycline.
- (35) **Articles producing a lighting effect by the phenomenon of chemiluminescence**, e.g., lightsticks in which the lighting effect is obtained by a chemical reaction between oxalic acid type esters and hydrogen peroxide in the presence of a solvent and a fluorescent compound.
- (36) **Starting fluid for petrol engines**, consisting of diethyl ether, 70 % or more by weight of petroleum oils and also other constituents, the diethyl ether being the basic constituent.
- (37) **Modelling paste in powder form** (for use after mixing with water). The powder consists of about 30 % rye flour and about 30 % wood cellulose, together with cement, glue and chalk. The heading **does not include**, however, modelling pastes of **heading 34.07**.
- (38) **"Flatting pigment(s)"** consisting of the aluminium salt of a modified resinic acid, the particles being coated with a cellulose ether to protect them against solvents and to prevent sedimentation.
- (39) **"Fish-scale paste" or "fish guano"**, consisting of a crude silvery paste obtained by treating fish scales with white spirit, and, because of its guanine content, used after refining to make pearl essence.
- (40) **Thallium bromoiodide crystals**, consisting of a solid solution of bromide and iodide, used for their optical properties (high transparency to infra-red radiation).

- (41) **Gelling agent**, a non-chemically defined product, consisting of a montmorillonite which has been subjected to a special treatment rendering it organophilic, put up in the form of a creamy-white powder, used in the manufacture of many organic preparations (paints, varnishes, vinyl polymer dispersions, waxes, adhesives, mastic compounds, cosmetics, etc.).
- (42) **Fatty acids, industrial** :
- (i) Dimerised.
 - (ii) Trimerised.
 - (iii) Esterified with amyl alcohol and subsequently epoxydised.
- (43) **Agglomerated mixture** of technical molybdc oxide, carbon and boric acid, prepared for use as an alloying material in steel-making.
- (44) **Powder described in trade as “grey oxide” or “black oxide” and sometimes improperly called “lead dust”**, being a specially prepared mixture of lead monoxide (65 to 80 %) and lead metal (the balance), obtained by controlled oxidation of pure lead in a ball mill process and used in the manufacture of storage battery plates.
- (45) **Mixtures of isomers of two different organic compounds**, divinylbenzene isomers (typically 25 to 80 %) and ethylvinylbenzene isomers (typically 19 to 50 %), used as polymerizing agents in polystyrene resins in which only the divinylbenzene isomers take part in the cross-linking process.
- (46) **Mixtures, used as thickeners and emulsion stabilisers in chemical preparations or as binders in the manufacture of abrasive grindstones**, consisting of products of either separate headings or the same heading of Chapter 25, whether or not with materials classified in other Chapters and having one of the following compositions :
- mixture of various clays;
 - mixture of various clays and feldspar;
 - mixture of clay, powdered feldspar and powdered natural borax (tincal);
 - mixture of clay, feldspar and sodium silicate.
- (47) **Mixtures used as plant growing media, such as potting soils**, consisting of products classifiable in Chapter 25 (earth, sand, clay), whether or not they contain small quantities of the fertilising elements nitrogen, phosphorus or potassium.
- Mixtures of peat and sand or clay, the essential character of which is given by the peat, are, however, **excluded (heading 27.03)**.
- (48) **Copying pastes with a basis of gelatin**. These are used to duplicate drawings, to coat printing machine rollers, etc. The composition of these pastes varies, but the essential constituent is gelatin, to which is added, in varying proportions, dextrin and barium sulphate, or (if the pastes are to be used for the manufacture of inking rollers for printing machines) glycerol or sugar and fillers (kaolin, etc.)
- These pastes are classified here whether presented in bulk (boxes, drums, etc.) or ready for use (generally on a paper or textile backing).
- The heading **excludes** inking rollers for printing machines coated with copying paste (**heading 84.43**).

- (49) **Diacetyl tartaric acid ester of mono- and diglycerides** mixed with tricalcium phosphate or calcium carbonate, used as emulsifiers.

The heading also **excludes** :

- (a) Finishing agents and other products or preparations, of a kind used in the textile, paper, leather or like industries (**heading 38.09**).
- (b) Mixtures of heat- or sound-insulating or sound-absorbing mineral materials of **heading 68.06** or mixtures with a basis of asbestos or with a basis of asbestos and magnesium carbonate of **heading 68.12**.

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Subheading Explanatory Note.

Subheadings 3824.71 to 3824.79

Subheadings 3824.71 to 3824.79 cover mixtures containing halogenated derivatives of methane, ethane or propane, including mixtures of such halogenated derivatives with other substances.

Trade in mixtures containing halogenated derivatives of methane, ethane and propane is controlled by the Montreal Protocol on Substances that Deplete the Ozone Layer.