

WORLD CUSTOMS ORGANIZATION ORGANISATION MONDIALE DES DOUANES

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TARIFF AND TRADE AFFAIRS DIRECTORATE

NG0012E1

NOMENCLATURE AND CLASSIFICATION

O. Eng./Fr.

SUB-DIRECTORATE

Brussels, 4 August 1999.

HARMONIZED SYSTEM **EXPLANATORY NOTES** (English text)

AMENDING SUPPLEMENT No. 8

AUGUST 1999

Note:

The following amendments adopted by the Harmonized System Committee at its 23rd Session (Doc. NC0090E2) have been approved under the procedure laid down in Article 8.2 of the Convention (see Docs. NG0006E1 and NC00095E1).

These amendments will be inserted in the Explanatory Notes by substituting an amended version of the relevant pages.

AMENDMENTS TO THE EXPLANATORY NOTES TO BE MADE BY CORRIGENDUM

Page 204. Heading 25.18. Second and third paragraphs.

Delete and substitute:

"The heading covers crude dolomite as well as calcined and sintered dolomite. Dolomite is calcined at a temperature range of 700 °C – 1000 °C to convert it into magnesium and calcium oxides by releasing carbon dioxide. On the other hand, sintered dolomite is obtained by heating dolomite to a temperature range of 1700 °C – 1900 °C when it becomes a refractory material. The heading also includes dolomite which has been roughly trimmed or merely cut, by sawing or otherwise, into blocks or slabs of a rectangular (including square) shape.

This heading further includes dolomite ramming mixes which are used as refractory materials (e.g., for furnace lining). These products are traded in powder or granular form consisting predominantly of crushed sintered dolomite. Depending on the field of application or temperature at which the mix will be used, different non-hydraulic binding agents (e.g., tar, pitch, resins) are used."

(Doc. NC0090B2/M/2)

Page 204. Heading 25.18. Last paragraph. Exclusions.

Delete and substitute:

"The heading does not cover:

- (a) Crushed dolomite for concrete aggregates, road metalling or railway ballast (heading 25.17).
- (b) Refractory preparations based on dolomite with the addition of hydraulic binders (e.g., cements, lime), whether or not containing clay (heading 38.16)."

(Doc. NC0090B2/M/2)

Page 462. CHAPTER 29.

Insert the following text at the end of Chapter 29 as new pages:

Χ

X X

"CHEMICAL STRUCTURES OF CERTAIN PRODUCTS DESCRIBED IN THE EXPLANATORY NOTES TO CHAPTER 29

| Page | Heading | F | Paragi | raph | Description in the Explanatory Notes | Chemical Structure |
|------|---------|-----|--------|------|---|---|
| | General | (G) | | | Classification of esters, salts and certain halides | |
| | | | (1) | | Esters | |
| 345 | | | | (a) | | O HO-CH ₂ -CH ₂ CH ₃ -C-O-CH ₂ -CH ₂ (Diethylene glycol) (Acetic acid) 29.09 (Diethylene glycol acetate) 29.15 |
| | | | | (b) | | SO ₃ H $O=S=O$ + CH_3OH (Methyl alcohol) 29.05 (Benzenesulphonic acid) (Methyl benzenesulphonate) 29.05 |
| | | | | (c) | | COOH COOC ₄ H ₉ (Buthyl hydrogenphthalate) 29.17 |

| (345) | (G) | (1) | (d) | | COOH + HOCH $_2$ COOH + C $_4$ H $_9$ OH COOH (Glycollic acid) (Butyl alcohol) (Phthalic acid) 29.18 29.05 29.17 COOC $_4$ H $_9$ (Butyl phthalyl butyl glycollate) 29.18 |
|-------|-----|-----|--------|-------|---|
| | | | (d) | | CH ₃ COOH+HOCH ₂ CH ₃ → CH ₃ COOCH ₂ CH ₃ (Acetic acid) (Ethyl alcohol) (Ethyl acetate) 29.15 29.15 |
| | | (2) | | Salts | |
| 346 | | | (a)(i) | | CH ₃ O COOH CH ₃ O COONa + NaOH (Sodium hydroxide) (Methoxybenzoic acid) (Sodium methoxybenzoate) 29.18 |
| | | | | | $C_4H_9OC \longrightarrow COOH \longrightarrow C_4H_9OC \longrightarrow COO$ $+ Cu(OH)_2 \longrightarrow (C_4H_9OC \longrightarrow COO)$ $(Butyl hydrogen phthalate) \longrightarrow (n-Butyl copper phthalate)$ $29.17 \longrightarrow (2000)$ $(n-Butyl copper phthalate)$ $29.17 \longrightarrow (2000)$ |
| | | | (ii) | | $(C_2H_5)_2NH + HCl \xrightarrow{\qquad \qquad } (C_2H_5)_2NH$ $(Diethylamine) 28.06 (Diethylamine 29.21 hydrochloride) 29.21$ |

| (346) | | (G) | (2) | (b)(i) | | ⊝⊕ |
|-------|-------|-----|-----|--------|-------------------------------|--|
| | | | | | | NH ₂ CH ₃ COONH ₃ |
| | | | | | | CH_3 · C ·OH+ \bigcirc |
| | | | | | | CH ₃ ·C·OH+ |
| | | | | | | (Acetic acid) (Aniline) (Aniline acetate) |
| | | | | | | 29.15 29.21 29.21 |
| | | | | (ii) | | Q-CH ₂ COOH Q-CH ₂ COO·NH ₃ CH ₃ |
| | | | | | | |
| | | | | | | $CH_3NH_2 + \bigcirc$ |
| | | | | | | (Methylamine) |
| | | | | | | 29.21 (Phenoxyacetic acid) (Methylamine phenoxyacetate) 29.18 29.18 |
| | | | (3) | | Halides of carboxylic acids | O |
| | | | | | (Isobutyryl chloride : 29.15) | (CH ₃) ₂ CH-C-Cl |
| | | | | | | |
| | 29.02 | | | | CYCLIC HYDROCARBONS | |
| | | (B) | | | CYCLOTERPENES | |
| 351 | | | (3) | | Limonene | HC-CH ₂ CH ₂ |
| | | | | | | H ₃ C-C CH-C |
| | | | | | | HC-CH ₂ CH ₂ H ₃ C-C CH-C 2HC-CH ₂ CH ₃ |
| 352 | | (C) | | | AROMATIC HYDROCARBONS | |
| | | | (I) | (c) | o-xylene | CH ₃ |
| | | | | | | |
| | | | | | | CH ₃ |
| | | | | (d)(1) | styrene | HÇ=CH ₂ |
| | | | | | | |
| | 1 | | | | | |
| | | | | | | |

| 29.03 | | | | HALOGENATED DERIVATIVES OF HYDROCARBONS | |
|-------|-----|-----------|--|---|---|
| | (F) | | | HALOGANATED DERIVATIVES OF AROMATIC HYDROCARBONS | |
| | | (6) | | 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane or dichlorodiphenyltrichloroethane (DDT) | Cl Cl Cl Cl Cl Cl |
| 29.04 | | | | SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF HYDROCARBONS, WHETHER OR NOT HALOGENATED | |
| | (A) | | | SULPHONATED DERIVATIVES | |
| | | (1) | (a) | Ethylenesulphonic acid | CH ₂ =CHSO ₃ H |
| | (B) | | | NITRATED DERIVATIVES | |
| | | (1) | (d) | Trinitromethane | CH(NO ₂) ₃ |
| | (C) | | | NITROSATED DERIVATIVES | |
| | | (2) | | Nitrosotoluene | CH ₃ |
| | | | | | |
| | (D) | | 1 | SULPHOHALOGENATED DERIVATIVES | - |
| | | (1) | | Chlorobenzenesulphonic acid | SO ₃ H Cl |
| | | 29.04 (A) | (F) (6) (6) (6) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7 | (F) (6) (6) (7) (2) (D) (D) | HYDROCARBONS (F) HALOGANATED DERIVATIVES OF AROMATIC HYDROCARBONS (6) 1,1,1-Trichloro-2,2-bis(p-chlorophenyl)ethane or dichlorodiphenyltrichloroethane (DDT) 29.04 SULPHONATED, NITRATED OR NITROSATED DERIVATIVES OF HYDROCARBONS, WHETHER OR NOT HALOGENATED (A) SULPHONATED DERIVATIVES (1) (a) Ethylenesulphonic acid (B) NITRATED DERIVATIVES (1) (d) Trinitromethane (C) NITROSATED DERIVATIVES (2) NITROSATED DERIVATIVES Nitrosotoluene |

| | 29.05 | | | | ACYCLIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
|-----|-------|-----|------|-----|---|---------------------------------------|
| | | (B) | | | UNSATURATED MONOHYDRIC ALCOHOLS | |
| 360 | | | (1) | | Allyl alcohol | H ₂ C=CHCH ₂ OH |
| | | (C) | | | DIOLS AND OTHER POLYHYDRIC ALCOHOLS | |
| 361 | | | (II) | (4) | Mannitol | CH ₂ OH |
| I | | | | | | носн |
| | | | | | | носн |
| | | | | | | НСОН |
| | | | | | | НСОН |
| | | | | | | CH ₂ OH |
| | 29.06 | | | | CYCLIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| | | (A) | | | CYCLANIC, CYCLENIC OR CYCLOTERPENIC ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| 362 | | | (1) | | Menthol | CH ₃ OH CH ₃ |

| | 29.07 | | | PHENOLS; PHENOL-ALCOHOLS | |
|-----|-------|-----|-----|--------------------------------------|----------------------------------|
| | | (A) | | MONONUCLEAR MONOPHENOLS | |
| 365 | | | (2) | Cresol(s) | OH OH OH OH CH ₃ |
| | | (D) | | | (o-Cresol) (m-Cresol) (p-Cresol) |
| | | (B) | (1) | POLYNUCLEAR MONOPHENOLS Naphthol(s) | |
| | | | (1) | | OH (a-Naphthol) (B-Naphthol) |
| | | (C) | | POLYPHENOLS | |
| | | | (1) | Resorcinol | ОН |
| | | | (3) | Bisphenol A | HO CH_3 CH_3 CH_3 CH_3 |

| | 29.09 | (0) | | ETHERS, ETHER-ALCOHOLS, ETHER-PHENOLS, ETHER-ALCOHOL-PHENOLS, ALCOHOL PEROXIDES, ETHER PEROXIDES, KETONE PEROXIDES (WHETHER OR NOT CHEMICALLY DEFINED), AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES ETHER-PHENOLS AND ETHER-ALCOHOL- | |
|-----|-------|-----|-----|--|----------------------------------|
| | | (C) | | PHENOLS | |
| 370 | | | (1) | Guaiacol | OH OCH ₃ |
| | | (D) | | ALCOHOL PEROXIDES, ETHER PEROXIDES AND KETONE PEROXIDES | |
| | | | | Ketone peroxides (Cyclohexanone peroxide) | HOO OH |
| | 29.10 | | | EPOXIDES, EPOXYALCOHOLS, EPOXYPHENOLS AND EPOXYETHERS, WITH A THREE-MEMBERED RING, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| 371 | | (1) | | Oxirane | H ₂ C-CH ₂ |
| | 29.11 | | | ACETALS AND HEMIACETALS, WHETHER OR NOT WITH OTHER OXYGEN FUNCTION, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |

| 372 | | (A) | | | ACETALS AND HEMIACETALS | $R-C < \begin{matrix} O-R_1 \\ O-R_2 \end{matrix} R-C < \begin{matrix} O-R_1 \\ O-H \end{matrix}$ |
|-----|-------|-----|------|-----|--|--|
| | 29.12 | | | | ALDEHYDES, WHETHER OR NOT WITH OTHER OXYGEN FUNCTION; CYCLIC POLYMERS OF ALDEHYDES; PARAFORMALDEHYDE | |
| 374 | | (A) | | | ALDEHYDES | O R—C—H |
| | | | (IV) | (1) | Benzaldehyde | СНО |
| | | (C) | | | ALDEHYDE-ETHERS, ALDEHYDE-PHENOLS AND ALDEHYDES WITH OTHER OXYGEN FUNCTION | |
| 375 | | | (1) | | Vanillin | CHO OCH ₃ |
| | | (D) | | | CYCLIC POLYMERS OF ALDEHYDES | |
| | | | (1) | | Trioxan | 0 |
| | 29.14 | | | | KETONES AND QUINONES, WHETHER OR NOT WITH OTHER OXYGEN FUNCTION, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |

| 378 | | (A) | | | KETONES | 0 |
|-------|---------|-----|------|-----|---|--|
| | | | | | | R_1 — \tilde{C} — R_2 |
| (378) | (29.14) | (A) | (II) | (1) | Camphor | H ₃ C CH ₃ CH ₃ O |
| 380 | | (E) | | | QUINONES | |
| | | | (1) | | Anthraquinone | |
| | 29.15 | | | | SATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR ANHYDRIDES HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| 384 | | (V) | (a) | | n-Butyric acid | CH ₃ CH ₂ CH ₂ COOH |
| | 29.16 | | | | UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS, CYCLIC MONOCARBOXYLIC ACIDS, THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| | | (A) | | | UNSATURATED ACYCLIC MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES | |

| 386 | | (A) | (1) | | Acrylic acid | CH ₂ =CHCOOH |
|-----|---------|-----|-----|-----|---|--|
| | | (C) | | | AROMATIC SATURATED MONOCARBOXYLIC ACIDS AND THEIR SALTS, ESTERS AND OTHER DERIVATIVES | |
| 387 | (29.16) | | (1) | | Benzoic acid | СООН |
| | | | | (a) | Benzoyl peroxide | 0C-0-0-C0 |
| | | | | (b) | Benzoyl chloride | COCI |
| | 29.17 | | | | POLYCARBOXYIC ACIDS, THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| | | (A) | | | ACYCLIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND DERIVATIVES | |
| 389 | | | (3) | | Azelaic acid | HOOC(CH ₂) ₇ COOH |
| | | | (5) | | Maleic anhydride | 0 0 |
| | | (C) | | | AROMATIC POLYCARBOXYLIC ACIDS AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES | |
| | | | (1) | | Phthalic anhydride | |

| (389) | (29.17) | (C) | (2) | Terephthalic acid | СООН |
|-------|---------|-----|-----|---|----------------------|
| | | | | | |
| | | | | | СООН |
| | 29.18 | | | CARBOXYLIC ACIDS WITH ADDITIONAL OXYGEN FUNCTION AND THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| | | (A) | | CARBOXYLIC ACIDS WITH ALCOHOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES | |
| 391 | | | (3) | Citric acid | CH₂COOH |
| | | | | | C(OH)COOH |
| | | | | | CH ₂ COOH |
| | | | (6) | Phenylglycolic acid | СООН |
| | | | | | H - C-OH |
| | | | | | |
| | | (B) | | CARBOXYLIC ACIDS WITH PHENOL FUNCTION AND THEIR ESTERS, SALTS AND OTHER DERIVATIVES | |
| | | | (1) | Salicylic acid | СООН |
| | | | | | OH |

| 393 | 29.19 | | | PHOSPHORIC ESTERS AND THEIR SALTS, INCLUDING LACTOPHOSPHATES: THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | $ \begin{array}{c} OR_1 \\ R_2O-P=O \\ OR_3 \end{array} $ |
|-------|---------|-----|-----|--|---|
| | | (3) | | Tributyl phosphate | C ₄ H ₉ O C ₄ H ₉ O-P=O C ₄ H ₉ O |
| | 29.20 | | | ESTERS OF OTHER INORGANIC ACIDS (EXCLUDING ESTERS OF HYDROGEN HALIDES) AND THEIR SALTS; THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES | |
| | | (A) | | Thiophosphoric esters | |
| 394 | | | | Sodium O,O-dibutyldithiophosphates | $NaS - P = O - C_4 H_9$ $O - C_4 H_9$ |
| | | (C) | | Nitrous and nitric esters | |
| | | | | Methyl nitrite | CH ₃ ONO |
| | | | | Nitroglycerol | CH ₂ ONO ₂ CHONO ₂ CH ₂ ONO ₂ |
| | 1 | (D) | | Carbonic or peroxocarbonic esters and their salts | |
| | | | (1) | Diguaiacyl carbonate | H ₃ CO OCH ₃ |
| (394) | (29.20) | (E) | İ | Silicic acid esters and their salts | |

| | | | | Tetraethyl silicate | C_2H_5O Si C_2H_5 OC_2H_5 OC_2H_5 |
|-------|---------|-----|-----|--|--|
| 395 | 29.21 | | | AMINE-FUNCTION COMPOUNDS | $R-NH_2$ $R-NH-R$ R $N-R$ |
| | | (A) | | ACYCLIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF | |
| 396 | | | (4) | Ethylamine | CH ₃ -CH ₂ -NH ₂ |
| | | (B) | | ACYCLIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF | |
| | | | (2) | Hexamethylenediamine | H ₂ N CH ₂ CH ₂ CH ₂ NH ₂ NH ₂ |
| | | (D) | | AROMATIC MONOAMINES AND THEIR DERIVATIVES; SALTS THEREOF | |
| 397 | | | (1) | Aniline | NH ₂ |
| | | | (2) | Toluidine(s) | CH_3 |
| | | | (4) | 1-Naphthylamine | NH ₂ |
| (397) | (29.21) | (E) | | AROMATIC POLYAMINES AND THEIR DERIVATIVES; SALTS THEREOF | |

| | | | (1) | Phenylenediamine(s) | NH ₂ |
|-----|-------|-----|-----|--|---|
| | | | | | NH_2 |
| | 29.22 | | | OXYGEN-FUNCTION AMINO-COMPOUNDS | |
| | | (A) | | AMINO-ALCOHOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF | |
| 399 | | | (1) | Monoethanolamine | H ₂ N-CH ₂ CH ₂ OH |
| | | (B) | | AMINO-NAPHTHOLS AND OTHER AMINO- PHENOLS, THEIR ETHERS AND ESTERS; SALTS THEREOF | |
| | | | (1) | Aminohydroxynaphthalenesulphonic acids | H ₂ N OH SO ₃ H |
| | | | (a) | Anisidine(s) | OCH ₃ NH ₂ |
| | | | (b) | Dianisidine(s) | H ₃ CO OCH ₃ NH ₂ |
| | | (D) | | AMINO ACIDO AND THEIR FOTERO, CALTO | · |
| | | (D) | | AMINO-ACIDS AND THEIR ESTERS; SALTS THEREOF | |
| 400 | | | (1) | Lysine | NH ₂ H ₂ N(CH ₂) ₄ C-COOH |
| | 29.23 | | | QUATERNARY AMMONIUM SALTS AND HYDROXIDES; LECITHINS AND OTHER | |

| | | | | | PHOSPHOAMINOLIPIDS | |
|-----|-------|-----|-----|------|--|---|
| 401 | | (1) | | | Choline (Choline hydroxide) | ⊕ [(CH ₃) ₃ NCH ₂ CH ₂ OH]OH |
| | | (2) | | | Lecithin | $\begin{array}{c} \text{CH}_2\text{OCOR} \\ \text{RCOOC-H} & \text{O} \\ \text{H}_2\text{COPOR} \\ \text{O} \\ \end{array}$ |
| | 29.24 | | | | CARBOXYAMIDE-FUNCTION COMPOUNDS; AMIDE-FUNCTION COMPOUNDS OF CARBONIC ACID | |
| | | (B) | | | CYCLIC AMIDES | |
| 402 | | | (1) | (ii) | Diethyldiphenylurea | $ \begin{array}{c c} & C \\ & I \\ & I \\ & C_2H_5 \\ & C_2H_5 \end{array} $ |
| | 29.25 | | | | CARBOXYIMIDE-FUNCTION COMPOUNDS (INCLUDING SACCHARIN AND ITS SALTS) AND IMINE-FUNCTION COMPOUNDS | |
| | | (A) | | | IMIDES | |
| 403 | | | (1) | | Saccharin | CO SO ₂ NH |

| | | (B) | | | IMINES | |
|-------|---------|-----|-----|-----|---------------------------------|------------------------------|
| 404 | | | (1) | (a) | Diphenylguanidine | C=NH NH |
| (404) | (29.25) | (B) | (3) | | Imino ethers | RC NH OR' |
| | 29.26 | | | | NITRILE-FUNCTION COMPOUNDS | |
| | | (1) | | | Acrylonitrile | CH ₂ =CHCN |
| | | (2) | | | 1-Cyanoguanidine | H ₂ NC NH NHCN |
| | | | | | | |
| 40- | 29.27 | (0) | | | DIAZO-, AZO, OR AZOXY-COMPOUNDS | |
| 405 | | (A) | (4) | | DIAZO-COMPOUNDS | |
| | | | (1) | (a) | Benzenediazonium chloride | N=NCl ↓ |
| | | | | | | |
| | | (B) | | | AZO-COMPOUNDS | $R_1N=NR_2$ |
| 406 | | (C) | | | AZOXY-COMPOUNDS | R_1 - N_2 O- R_2 |
| | | | (1) | | Azoxybenzene | N=N-O |

| | 29.28 | | | | ORGANIC DERIVATIVES OF HYDRAZINE OR OF HYDROXYLAMINE | |
|-------|---------|------|-----|-----|--|-------------------|
| | | (1) | | | Phenylhydrazine | NHNH ₂ |
| (406) | (29.28) | (11) | | | Phenylglyoxime | C=NH→O HC=NOH |
| | 29.29 | | | | COMPOUNDS WITH OTHER NITROGEN FUNCTION | |
| 407 | | (1) | | | Isocyanates | R-N=C=O |
| | S-Ch. X | | | | ORGANO-INORGANIC COMPOUNDS, HETEROCYCLIC COMPOUNDS, NUCLEIC ACIDS AND THEIR SALTS, AND SULPHONAMIDES | |
| 408 | | (A) | | | FIVE-MEMBERED RINGS | |
| | | | (1) | (a) | Furan | O |
| | | | | (b) | Thiophen | S |
| | | | | (c) | Pyrrole | HN |
| | | | (2) | (a) | Oxazole | ON |
| | | | | (a) | Isoxazole | |

| (408) | (A) | (2) | (b) | Thiazole | \sum_{N}^{S} |
|-------|-----|-----|-----|---------------------------|------------------|
| | | | (c) | Imidazole | HNN |
| | | | (c) | Pyrazole | HNN |
| | | (3) | (a) | Furazan | NON N |
| | | | (b) | Triazole (1,2,4-Triazole) | H N N |
| | | | (c) | Tetrazole | H N N N |
| | (B) | | | SIX-MEMBERED RINGS | |
| | | (1) | (a) | Pyran (2H-Pyran) | O |

| (408) | (B) | (1) | (b) | Thiin | |
|-------|-----|-----|-----|--------------------------|---|
| (400) | | (1) | (6) | | S |
| | | | (c) | Pyridine | N N |
| | | (2) | (a) | Oxazine (1,4-Oxazine) | |
| | | | (b) | Thiazine (1,4-Thiazine) | $\left(\begin{array}{c} S \\ N \\ M \end{array}\right)$ |
| | | | (c) | Pyridazine | NNN NN |
| | | | (c) | Pyrimidine | ĺ N _N |
| | | | (c) | Pyrazine | N N |

| (408) | (B) | (2) | (c) | Piperazine | HN NH |
|-------|-----|-----|-----|---|---|
| | (C) | | | OTHER MORE COMPLEX HETEROCYCLIC COMPOUNDS | |
| 409 | | (a) | | Coumarone | ○ CO |
| | | (b) | | Benzopyran | O CO |
| | | (c) | | Xanthene | |
| | | (d) | | Indole | NH |
| | | (e) | | Quinoline and isoquinoline | |
| | | (f) | | Acridine | |
| | | (g) | | Benzothiophene (Thionaphthene) | © S S S S S S S S S S S S S S S S S S S |

| (409) | (C) | (h) | Indazole | NH N |
|-------|-----|------|---------------|---|
| | | (ij) | Benzimidazole | NH N |
| | | (k) | Phenazine | O O O |
| | | (1) | Phenoxazine | O N N N N N N N N N N N N N N N N N N N |
| | | (m) | Benzoxazole | O N |
| | | (n) | Carbazole | O N N N N N N N N N N N N N N N N N N N |
| | | (o) | Quinazoline | © N _N |
| | | (p) | Benzothiazole | S _N |

| (409) | 29.30 | | | ORGANO-SULPHUR COMPOUNDS | Compounds with C—S bond |
|-------|-------|-----|-----|---|--|
| | | (A) | | DITHIOCARBONATES (XANTHATES) | CS(OR)(SR') R'=Metal |
| | | | (1) | Sodium ethyldithiocarbonate | C ₂ H ₅ O—CS ₂ Na |
| 410 | | (B) | | THIOCARBAMATES, DITHIOCARBAMATES AND THIURAM SULPHIDES | |
| | | | (2) | Dithiocarbamates | N-C-SM |
| | | (C) | | SULPHIDES (OR THIOETHERS) | R.S.R ₁ |
| | | | (1) | Methionine | CH ₃ SCH ₂ CH ₂ CHCOOH NH ₂ |
| | | (D) | | THIOAMIDES | |
| | | | (2) | Thiocarbanilide | NH-C-NH- |
| | 29.31 | | | OTHER ORGANO-INORGANIC COMPOUNDS | |
| 412 | | (3) | | Organo-silicon compounds | Compounds with C—Si bond |
| | | | | Hexamethyldisiloxane | CH ₃ CH ₃ CH ₃ -Si-O-Si-CH ₃ CH ₃ CH ₃ |
| | 29.32 | | | HETEROCYCLIC COMPOUNDS WITH OXYGEN HETERO-ATOM(S) ONLY | |
| 413 | | (A) | | Compounds containing an unfused furan ring (whether or not hydrogenated) in the structure | (See structure of furan against page 408 for Sub-Chapter X (A) (1) (a)) |

| | | | (2) | 2-Furaldehyde | o CHO |
|-------|---------|-----|------|---|-------------------------------------|
| | | | | | ОСНО |
| (413) | (29.32) | (A) | (3) | Furfuryl alcohol | O CH ₂ OH |
| | | (B) | (| Lactones | O O |
| | | | (a) | Coumarin | |
| 414 | | | (p) | Phenolphthalein | HO C OH |
| | | (C) | | Other heterocyclic compounds with oxygen heteroatom(s) only | |
| | | | (5) | Safrole | CH ₂ =CH-CH ₂ |
| 415 | | | (10) | 1-(1,3-Benzodioxol-5-yl)propan-2-one | H_2C O CH_2 CH_3 |

| | | 1 | 1 | <u> </u> | |
|-------|---------|-----|-----|---|--|
| | | | | Example for esters (lactone) forming part of two rings | O O |
| (415) | (29.32) | | | Example for dilactone | |
| | | | | Internal Hemiacetals | OH |
| | | | | Ketone peroxides (exclusion) - see.29.09 | $ \begin{array}{c} R & O-O-R_2 \\ R_1 & O-O-R_3 \end{array} $ |
| | 29.33 | | | HETEROCYCLIC COMPOUNDS WITH NITROGEN HETERO-ATOM(S) ONLY | |
| 416 | | (A) | | Compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure | (See structure of pyrazole against page 408 for Sub-Chapter X (A) (2) (c)) |
| | | | (1) | Phenazone | |
| | | | | | C_6H_5 CH_3 CH_3 |
| | | (B) | | Compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure | C_6H_5 CH_3 CH_3 (See structure of imidazole against page 408 for Sub-Chapter X (A) (2) (c)) |
| | | (B) | (1) | | (See structure of imidazole against page 408 for |

| 417 | | (D) | | Compounds containing a quinoline or isoquiniline ring-system (whether or not hydrogenated), not further fused | (See structures of quinoline and isoquinoline against page 409 for Sub-Chapter X (C) (e)) |
|-------|---------|-----|-----|---|---|
| (417) | (29.33) | | (4) | Tetrahydromethylquinoline (5,6,7,8-Tetrahydromethylquinoline) | \sim |
| | | (E) | | Compounds containing a pyrimidine ring (whether or not hydrogenated)or piperazine ring in the structure | (See structure of pyrimidine against page 408 for Sub-Chapter X (B) (2) (c)) |
| | | | (1) | Malonylurea (Barbituric acid) | $O \longrightarrow \begin{matrix} H \\ N \\ N \end{matrix} O$ $O \longrightarrow O$ |
| 418 | | (F) | | Compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure | |
| | | | (1) | Melamine | $ \begin{array}{c} H_2N \\ N \\ $ |
| | | (G) | | Lactams | O NH |
| | | (H) | | Other heterocyclic compounds with nitrogen heteroatom(s) only | |

| 418a | | (H) | (1) | Carbazole | |
|------|---------|-----|-----|---|---|
| 1100 | | () | (') | Garbazoro | H N |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | (2) | Acridine | (See structure of acridine against page 409 for Sub- |
| 110 | (00,00) | | | 0 | Chapter X (C) (f)) |
| 419 | (29.33) | | | Oxazepam | NH~O |
| | | | | | |
| | | | | | () |
| | | | | | Cl |
| | | | | | C_6H_5 |
| | | | | Example for amide (lactam) forming part of two rings | |
| | | | | | |
| | | | | | |
| | | | | | N |
| | 29.34 | | | NUCLEIC ACIDS AND THEIR SALTS; OTHER | |
| | | | | HETEROCYCLIC COMPOUNDS | |
| 420 | | (A) | | Compounds containing an unfused thiazole ring | (See structure of thiazole against page 408 for Sub- |
| | | (5) | | (whether or not hydrogenated) in the structure | Chapter X (A) (2) (b)) |
| | | (B) | | Compounds containing a benzothiazole ring-system (whether or not hydrogenated), not further fused | (See structure of benzothiazole against page 409 for Sub-Chapter X (C) (p)) |
| | | (C) | | Compounds containing a phenothiazine ring-system | |
| | | (0) | | (whether or not hydrogenated), not further fused | H H N |
| | | | | , , | |
| | | | | | |
| | | | | | S |
| | | (D) | | Other heterocyclic compounds | |
| | | | (1) | Sultones | 0 |
| | | | | | |
| | | | | | |
| | | | | | ι 'in U |

| (420) | (29.34) | (D) | (1) | (a) | Phenolsulphonephthalein | SO ₂ OH |
|-------|---------|-----|-----|-----|----------------------------|--|
| | | | (2) | | Sultams | O S=O I I NH |
| | | | (4) | | Furazolidone (INN) | O_2N O $CH=N$ O O |
| 420a | 29.35 | | | | SULPHONAMIDES | R_1 - S - N R_2 R_3 |
| 421 | | (4) | | | p-Aminobenzenesulphonamide | H ₂ N-SO ₂ NH ₂ |

| | 29.37 | | | HORMONES, NATURAL OR REPRODUCED BY SYNTHESIS; DERIVATIVES THEREOF, USED PRIMARILY AS HORMONES; OTHER STEROID USED PRIMARILY AS HORMONES | |
|-----|-------|-------|-----|---|---|
| 429 | | - | | Gonane | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| | | (III) | | STEROIDS USED PRIMARILY FOR THEIR HORMONE FUNCTION | |
| 431 | | | (C) | Progesterone (INN) | O 21 18CH ₃ 20C-CH ₃ 19CH ₃₉ H 14 15 18CH ₃ 20C-CH ₃ |
| | | | | Hydrocortisone (INN) | 18CH ₃ 20C CH ₂ OH HO 11 19CH ₃₉ H 10 H 8 H 15 |

| 433 | (29.37) | | Androstane | 18CH ₃ 19CH ₃₀ 11 12 13 17 16 2 3 4 H 14 17 18 H 15 |
|-----|---------|--|--------------------|--|
| | | | Cortisone (INN) | O 21 O 21 O 21 O 21 O 21 O 21 O 21 O 12 O 13 O 17 O 19 O 19 O 19 O 19 O 19 O 10 O 10 |
| 434 | | | Estrone (INN) | 18 CH ₃ O 11 12 13 17 10 H 8 H 15 |
| 437 | | | Prednisolone (INN) | O 21 HO 18 CH ₃ 20 C CH ₂ OH HO 18 CH ₃ 20 C CH ₂ OH 19 CH ₃₀ H 16 O 3 4 5 6 7 |

| (437) | (29.37) | | Prednisone (INN) | O CH ₂ -OH O CH ₂ -OH O CH ₂ -OH O CH ₃ -OH |
|-------|---------|--|--------------------|--|
| | | | Testosterone (INN) | 18CH ₃ OH 19CH ₃ 111 12 13 17 16 0 3 4 5 6 |
| - | | | Estrane | 18CH ₃ 11 12 13 17 16 16 17 18 16 17 18 17 18 18 18 19 19 19 19 10 10 10 10 10 10 10 10 10 10 10 10 10 |
| - | | | Pregnane | 18 CH ₃ CH ₂ -CH ₃ 18 CH ₃ CH ₂ -CH ₃ 19 CH ₃₀ H 14 15 16 |

| | 29.38 | | | GLYCOSIDES, NATURAL OR REPRODUCED BY SYNTHESIS, AND THEIR SALTS, ETHERS, ESTERS AND OTHER DERIVATIVES | |
|------|-------|-----|-----|---|--|
| 439 | | (1) | | Rutoside | HO OH O |
| | 29.39 | | | VEGETABLE ALKALOIDS, NATURAL OR REPRODUCED BY SYNTHESIS, AND THEIR SALTS, ETHERS, ESTERS AND OTHER DERIVATIVES | |
| | | (A) | | ALKALOIDS OF OPIUM AND THEIR DERIVATIVES; SALTS THEREOF | |
| 440a | | | (1) | Morphine | HO HON-CH ₃ |
| | | (B) | | ALKALOIDS OF CINCHONA AND THEIR DERIVATIVES; SALTS THEREOF | |
| 441 | | | (1) | Quinine | HO N HO N HO N HO |

| (441) | (29.39) | (C) | | CAFFEINE AND ITS SALTS | |
|-------|---------|-----|-----|--|--|
| (111) | (20.00) | | | Caffeine | H ₃ C, O CH ₃ |
| | | (D) | | EPHEDRINES AND THEIR SALTS | |
| | | | (1) | Ephedrine | CH ₃ H—NHCH ₃ HO-C-H |
| | | (E) | | THEOPHYLLINE AND AMINOPHYLLINE (THEOPHYLLINE-ETHYLENEDIAMINE) AND THEIR DERIVATIVES; SALTS THEREOF | |
| 442 | | | | Theophylline | H_3C N N C N C N C N N C N |
| | | (G) | | NICOTINE AND ITS SALTS | |
| | | | | Nicotine | CH ₃ |

| | 29.40 | | | SUGARS, CHEMICALLY PURE, OTHER THAN SUCROSE, LACTOSE, MALTOSE, GLUCOSE AND FRUCTOSE; SUGAR ETHERS AND SUGAR ESTERS, AND THEIR SALTS, OTHER THAN PRODUCTS OF HEADING No. 29.37, 29.38 or 29.39 | |
|-----|-------|-----|-----|--|---|
| | | (A) | | SUGARS, CHEMICALLY PURE | |
| 444 | | | (1) | Galactose | CHO HCOH HOCH HOCH HOCH HCOH HCOH CH ₂ OH OH OH OH |
| | | (B) | | SUGAR ETHERS AND ESTERS, AND THEIR SALTS | |
| | | | (1) | Hydroxypropyl sucrose | CH ₂ OCH ₂ CH ₂ CH ₂ OH HOCH ₂ O H OH H OH OH OH OH H |
| | 29.41 | | | ANTIBIOTICS | |
| 445 | | (1) | | Penicillins | RCONH S CH ₃ CH ₃ COOH |
| | 29.42 | | | OTHER ORGANIC COMPOUNDS | |
| 446 | | (1) | | Ketenes | R,>C=C=O |

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| | (| (2) | Copper acetoarsenite | Cu(CH ₃ CO ₂) ₂ •3Cu(AsO ₂) ₂ |
|--|---|-----|--|--|
| | (| (3) | Boron trifluoride complexes with diethyl ether | $(C_2H_5)_2O \cdot BF_3$ |

(Doc. NC0090B2/M/4)

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CHAPTER 30.

Page 468. Heading 30.04. First paragraph. Item (a). New second paragraph.

Insert the following new second paragraph under Item (a):

"The heading also includes measured doses in the form of transdermal administration systems which are generally put up in the form of self-adhesive patches (usually rectangular or round) and which are applied directly to the skin of patients. The active substance is contained in a reservoir which is closed by a porous membrane on the side entering into contact with the skin. The active substance released from the reservoir is absorbed by passive molecular diffusion through the skin and passes directly into the bloodstream. These systems should not be confused with medical adhesive plasters of heading 30.05."

(Doc. NC0090B2/M/18)

Page 471. Heading 30.05. Exclusions. New exclusion (b).

Insert the following new exclusion (b):

"(b) Medicaments put up in the form of transdermal administration systems (heading 30.04)."

Reletter present exclusions (b) and (c) as (c) and (d), respectively.

(Doc. NC0090B2/M/18)

Page 1722. Heading 96.01. Third paragraph. Item (I).

Insert "hippopotamus," after "elephant,".

(Doc. NC0090B2/M/30)

Page 1730. Heading 96.05. New last paragraph.

"This heading also **excludes** sets distributed by airlines to passengers (during their flight or at their destination if their baggage is not available), consisting of fabric bags containing articles of the type listed in Items (1) to (3) above, cosmetics, perfumery or toilet articles, handkerchiefs of cellulose wadding, but also made up textile articles such as pyjamas, T-shirts, trousers, shorts, etc. The articles of these sets are classifiable according to their **own appropriate heading.**"

(Doc. NC0090B2/M/29)

36.