29.04 - Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated.

2904.10 - Derivatives containing only sulpho groups, their salts and ethyl esters

2904.20 - Derivatives containing only nitro or only nitroso groups

2904.90 - Other

(A) SULPHONATED DERIVATIVES

These are hydrocarbons in which one or more atoms of hydrogen have been replaced by a like number of sulpho group ($-SO_3H$); they are generally called sulphonic acids. The heading also includes salts and ethyl esters of sulphonic acids (see Note 5 (B) to this Chapter).

(1) **Sulphonated derivatives of acyclic hydrocarbons**.

(a) Ethylenesulphonic acid.

(b) Ethanesulphonic acid.

(2) **Sulphonated derivatives of cyclic hydrocarbons**.

(a) Benzenesulphonic acid.

(b) Toluenesulphonic acids (sometimes erroneously called benzylsulphonic acids).

(c) Xylenesulphonic acids.

(d) Benzenedisulphonic acids.

(e) Naphthalenesulphonic acids.

(B) NITRATED DERIVATIVES

These are hydrocarbons in which one or more hydrogen atoms have been replaced by a like number of nitro groups ($-NO_2$).

(1) **Nitrated derivatives of acyclic hydrocarbons**.

(a) Nitromethane.

(b) Nitroethane.

(c) Nitropropane.

(d) Trinitromethane, etc.

(2) **Nitrated derivatives of cyclic hydrocarbons**.

(a) **Nitrobenzene** (oil of mirbane). Shining yellow crystals or oily yellowish liquid, with the odour of bitter almonds; used in perfumery, in soap-making, in organic synthesis, as a denaturing agent, etc.

(b) *m*-**Dinitrobenzene**. Colourless needles or flakes; used for the preparation of explosives.

(c) **Nitrotoluene** (*o*-, *m*- and *p*-).

(d) **2,4-Dinitrotoluene**. Crystals used in the manufacture of explosives.

(e) **2,4,6-Trinitrotoluene**. Powerful explosive.

Prepared explosive mixtures of these derivatives are **excluded** (**heading 36.02**).

(f) **5-*tert*-Butyl-2,4,6-trinitrometaxylene** (xylene musk); used in perfumery.

(g) **Nitroxylene, 3-*tert*-butyl-2,6-dinitro-*p*-cymene (cymene musk), nitronaphthalene, etc**.

(C) NITROSATED DERIVATIVES

These are hydrocarbons in which one or more atoms of hydrogen have been replaced by a like number of nitroso groups (-NO).

(1) **Nitrosobenzene**.

(2) **Nitrosotoluene** (*o*-, *m*- and *p*-).

(D) SULPHOHALOGENATED DERIVATIVES

These are hydrocarbon derivatives the molecules of which contain one or more sulpho groups ($-SO_3H$) or salts or ethyl esters thereof and one or more halogens, or else a halosulphonyl group.

(1) **Chloro-, bromo- and iodobenzenesulphonic acids** (*o*-, *m* and *p*-).

(2) **Chloro-, bromo- and iodobenzenedisulphonic acids**.

(3) **Chloronaphthalenesulphonic acids**.

(4) *p*-**Toluenesulphonyl chloride**.

(E) NITROHALOGENATED DERIVATIVES

These are hydrocarbon derivatives the molecules of which contain one or more nitro groups ($-NO_2$) and one or more halogens.

(1) **Trichloronitromethane or chloropicrin**.

(2) **Iodotrinitromethane (iodopicrin)**.

(3) **Chloronitromethane**.

(4) **Bromonitromethane**.

(5) **Iodonitromethane**.

(6) **Chloronitrobenzene**.

(7) **Chloronitrotoluene**.

(F) **NITROSULPHONATED DERIVATIVES**

These are hydrocarbon derivatives the molecules of which contain one or more nitro groups ($-NO_2$) and one or more sulpho groups ($-SO_3H$) or salts or ethyl esters thereof.

(1) **Nitrobenzenesulphonic and di- and trinitrobenzenesulphonic acids**.

(2) **Nitrotoluenesulphonic and di- and trinitrotoluenesulphonic acids**.

(3) **Nitronaphthalenesulphonic acids**.

(4) **Dinitrostilbenedisulphonic acids**.

(G) **NITROSULPHOHALOGENATED OR OTHER COMPOUND DERIVATIVES**

These are compound derivatives of a kind not specified above, for example, those which contain one or more nitro groups ($-NO_2$), sulpho groups ($-SO_3H$) or salts or ethyl esters thereof and one or more halogens. Specific examples are the sulphonated derivatives of chloronitrobenzenes, of chloronitrotoluenes, etc.