**29.31 - Other organo-inorganic compounds.**

2931.10 - Tetramethyl lead and tetraethyl lead

2931.20 - Tributyltin compounds

- Other organo-phosphorous derivatives :

2931.31 - - Dimethyl methylphosphonate

2931.32 - - Dimethyl propylphosphonate

2931.33 - - Diethyl ethylphosphonate

2931.34 - - Sodium 3-(trihydroxysilyl)propyl methylphosphonate

2931.35 - - 2,4,6-Tripropyl-1,3,5,2,4,6-trioxatriphosphinane 2,4,6-trioxide

2931.36 - - (5-Ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl)methyl methyl methylphosphonate

2931.37 - - Bis[(5-ethyl-2-methyl-2-oxido-1,3,2-dioxaphosphinan-5-yl)methyl] methylphosphonate

2931.38 - - Salt of methylphosphonic acid and (aminoiminomethyl)urea (1 : 1)

2931.39 - - Other

2931.90 - Other

This heading includes :

(1) **Tetramethyl lead** ($Pb(CH_3)_4$) **and tetraethyl lead** ($Pb(C_2H_5)_4$). Volatile liquids, colourless in the pure state, whereas the technical products are yellow; toxic; very efficient anti-knock agents.

(2) **Tributyltin compounds.**

(3) **Organo-phosphorus compounds.**

These are organic compounds containing at least one phosphorus atom directly linked to a carbon atom.

This group includes :

(a) **Dimethyl methylphosphonate*, dimethyl propylphosphonate and diethyl ethylphosphonate.**

(b) **Sodium 3-(trihydroxysilyl)propyl methylphosphonate.**

(c) **2,4,6-Tripropyl-1,3,5,2,4,6-trioxatriphosphinane 2,4,6-trioxide.**

(d) **Salt of methylphosphonic acid and (aminoiminomethyl)urea (1 : 1).**

(e) ***O*-Isopropyl methylphosphonofluoridate (sarin).**

(f) ***O*-Pinacolyl methylphosphonofluoridate (soman).**

(4) **Organo-silicon compounds.** These are separate chemically defined compounds in which the silicon atom is directly linked to at least one carbon atom of an organic radical. These compounds include organic silanes and siloxanes; in some cases these products are polymerized to make silicones. Silanes include chlorosilanes (e.g., dimethyldichlorosilane), alkoxysilanes (e.g., methyltrimethoxysilane), alkyl or aryl silanes (e.g., diphenylsilanediol, tetramethylsilane) and other multifunctional (amino, nitrile, oxiranyl, oximo, acetoxy, etc.) silanes. Siloxanes include hexamethyldisiloxane*, octamethyltrisiloxane, octamethylcyclotetrasiloxane, decamethylcyclopentasiloxane and dodecamethylcyclohexasiloxane. The heading also includes hexamethyldisilazane and organo-disilanes.

This heading **does not include** inorganic silicon compounds, which are generally classifiable in Chapter 28 (e.g., silicon tetrachloride ($SiCl_4$) in **heading 28.12** or trichlorosilane ($SiHCl_3$) in **heading 28.53**). Silicic acid esters and their salts are classified in **heading 29.20**. Deliberate mixtures of separate chemically defined organo-silicon compounds are classified elsewhere in the Nomenclature, generally in **heading 38.24**. This heading further **excludes** non-chemically defined products containing in the molecule more than one silicon-oxygen-silicon linkage, and containing organic groups connected to the silicon atoms by direct silicon-carbon bonds. These are silicones of **heading 39.10**.

(5) **Iron carbonyl, nickel carbonyl, etc.**

(6) **Organo-arsenic compounds.**

(a) **Methylarsonic acid** ($CH_3AsO(OH)_2$) and its salts. Crystallises in flakes, and forms crystalline salts such as sodium methylarsonate (colourless, used in medicine).

(b) **Cacodylic acid** and its salts. These contain the radical ($–As(CH_3)_2$) known as cacodyl. Used in medicine.

Cacodylic acid occurs as odourless, colourless crystals. Its main salt is sodium cacodylate, a crystalline white powder.

(c) ***p*-Aminophenylarsonic acid** ($H_2NC_6H_4AsO(OH)_2$) and its salts. Crystallises in shiny white needles. Its main salt is sodium *p*-aminophenylarsonate, an odourless, white, crystalline powder; used in medicine, particularly against sleeping-sickness.

(d) **Amino-hydroxyphenylarsonic acids, their formyl and acetyl derivatives** and their salts.

(e) **Arsenobenzene** ($C_6H_5As=AsC_6H_5$) and its derivatives, compounds analogous to azo compounds but containing the arseno group (–As=As–) instead of the azo group (–N=N–).

(7) ***o*-Iodosobenzoic acid.**

(8) **Metal alkyls, metal fullerenes and metallocenes.**

This heading **excludes** organo-sulphur compounds whose molecules have sulphur atom(s) directly linked to carbon atom(s) (see Note 6 to this Chapter). It **excludes** compounds whose molecules contain, in addition to sulphur atom(s) directly linked to carbon atom(s), other non-metal or metal atom(s) directly linked to carbon atom(s) (e.g., fonofos (ISO)) (**heading 29.30**).

This heading also **excludes** organo-mercury compounds which may contain one or more mercury atoms, in particular the (–HgX) group in which X is an inorganic or organic acid residue **(heading 28.52)**.