28.22 - Cobalt oxides and hydroxides; commercial cobalt oxides.

(A) COBALT OXIDES

(1) **Cobalt oxide** (cobalt monoxide, cobaltous oxide, grey oxide) (CoO). A grey, brown or greenish powder.

(2) **Dicobalt trioxide** (cobalt sesquioxide, cobaltic oxide) (Co_2O_3). Black powder.

(3) **Tricobalt tetraoxide** (cobalt saline oxide) (Co_3O_4). Black powder.

(4) **Commercial cobalt oxides**. Generally greyish or black powder consisting of cobalt monoxide and cobalt saline oxide in various ratios.

These products serve in enamel works for preparing brilliant blue colours, and in the glass industry for colouring optical glass. They are converted into silicates (e.g., cobalt potassium silicates) for the manufacture of the vitrifiable colours of heading 32.07; these compounds are known as smalt, opaque glass, azure, enamel blue and Sèvres blue. The term " smalt " is applied indiscriminately to the oxides and to their silicates, both being obtained from a natural cobalt arsenide, smaltite, an ore classified in heading 26.05. A certain number of blue, green and violet artists' paints are composed of cobalt oxides, aluminates, zincates and phosphates (sky blue, cerulean blue, cobalt green, cobalt violet).

The heading **excludes** crude cobalt oxides obtained from the treatment of argentiferous ores (**heading 26.20**).

(B) COBALT HYDROXIDES

The term " cobalt hydroxide " covers not only cobaltous hydroxide ($Co(OH)_2$), used for the preparation of driers, and cobaltic hydroxide (e.g., $Co(OH)_3$), obtained in cobalt metallurgy, but also saline oxide hydrates. They are used for similar purposes to cobalt oxides.

Natural hydrated oxide of cobalt (heterogenite) is **excluded** (**heading 26.05**).