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Antimony Trioxide

About

TCC's **Antimony Trioxide**, also known as antimony oxide or Sb_2O_3 , is the most widely produced compound of elemental antimony. It is found in nature as the minerals valentinite and senarmontite. Like most polymeric oxides, Sb_2O_3 dissolves in aqueous solutions only with hydrolysis.

Global production of **Antimony Trioxide** in 2005 was 120,000 tons, an increase from 112,600 tons in 2002. China produces the largest share (47%), followed by US/Mexico (22%), Europe (17%), Japan (10%), and South Africa (2%). Other countries account for an additional 2%.

Antimony Trioxide is mainly produced via the smelting of stibnite ore, which is oxidized to crude Sb_2O_3 using furnaces operating at approximately $850^\circ C$ to $1,000^\circ C$.

Crude Sb_2O_3 is purified by sublimation, which allows it to be separated from the more volatile arsenic trioxide. This step is relevant because antimony ores commonly contain significant amounts of arsenic.

Antimony oxide is also obtained via antimony trichloride, which can be obtained from stibnite.

Antimony Trioxide is an amphoteric oxide, dissolving in alkaline solution to give antimonites and in acid solution to give a range of polyantimonous acids. It can be readily oxidized to antimony pentoxide and related antimony (V) compounds, but it is also easily reduced to antimony, sometimes with production of stibine.

TCC's **Antimony Trioxide** can be dampened with a variety of media including, but not limited to, ethylene glycol, diisodecyl phthalate (DIDP), and mineral oil.