



>>Entry Name: Antimony oxide (Sb₂O₅), 9Cl, 8Cl

Synonym(s): Antimonic oxide. Diantimony(V) pentoxide. Antimony pentoxide (incorr.). Stibic anhydride

CAS Registry Number: 1314-60-9

Related CAS Registry Numbers(s): 12534-38-2 13520-62-2 17273-55-1

Extra CAS Registry Numbers(s): 12712-36-6

Sb₂O₅

Molecular Formula: O₅Sb₂

Molecular Weight: 323.497

Accurate Mass: 321.782217

Percentage Composition: O 24.73%; Sb 75.27%

General Statement: Monoclinic. Struct. comprises distorted SbO₆ octahedra connected by corners and edges. May also be obt. in a hydrated form of variable composition

Source/Synthesis: Formed by hydrol. of SbCl₅ or HSbCl₆; or by reaction of β-Sb₂O₃ + O₂ at 700-750° and high press. Thought to be formed, over a layer of Sb₂O₃, on Sb anode during electrolysis of weakly acid, or alkaline electrolyte

Use/Importance: Pigment. Oxidant

Physical Description: Yellowish powder or deep yellow cryst.

Solubility: Insol. H₂O; sl. sol. warm KOH soln.

Other Data: No reaction with conc. HCl, H₂SO₄ or HNO₃. Dec. at 380°

Hazard & Toxicity: Toxic. Flammable by chem. reaction with reducing compds.

Aldrich: 25599-8

References:

Gmelin Handbook Inorg. Chem., Syst. No. 18, 1949, 376, (rev, bibl)

El.Wakad, S.E.S. *et al.*, *J. Phys. Chem.*, 1953, **57**, 203, (formn)

Morgan, W.E. *et al.*, *Inorg. Chem.*, 1973, **12**, 953, (pe)

Birchall, T. *et al.*, *J.C.S. Dalton*, 1975, 2003, (pe)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 594, (synth)

Schwarzmann, E. *et al.*, *Z. Naturforsch., B*, 1977, **32**, 617, (synth, ir)

Jansen, M., *Acta Cryst. B*, 1979, **35**, 539, (cryst struct)

Peng, W. *et al.*, *Phys. Lett. A*, 1989, **139**, 91, (Mössbauer)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, AQF750