



>>Entry Name: Nitrosylsulfuric acid

ENTRY UNDER REVIEW

Synonym(s): Nitrosyl hydrogen sulfate. Sulfuric acid monoanhydride with nitrous acid. Nitrosyl sulfate. Nitrososulfuric acid. Nitrosulfonic acid. Nitroxylsulfuric acid. Nitrose. Lead chamber crystals. Chamber crystals

CAS Registry Number: 7782-78-7

HOS(O)₂ONO

Molecular Formula: HNO₅S

Molecular Weight: 127.078

Accurate Mass: 126.957544

Percentage Composition: H 0.79%; N 11.02%; O 62.95%; S 25.23%

Source/Synthesis: Synth. from SO₂ + HNO₃

Use/Importance: Commercially available. Used in synth. of diazonium sulfates, and for bleaching cereal milling products. Intermed. in lead chamber process for sulfuric acid

Physical Description: White cryst., stable in dry air. Readily hydrol.

Melting Point: Mp 73.5 dec.°

Solubility: Sol. H₂SO₄

Other Data: Dec. in moist air

Hazard & Toxicity: Corrosive, toxic

Aldrich: 36854-7

Fluka: 74000

References:

Gmelin Handbook Inorg. Chem., Syst. No. 9, 1963, B3, 1639, (rev, bibl)

Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, 1, 755; 2, 299, (uses)

Brauer, G., *Handbuch Prep. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, 1, 403, (synth)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials, 8th edn., Van Nostrand Reinhold, 1992, NMJ000*