



>>Entry Name: Selenious acid (H₂SeO₃), 9CI

Synonym(s): Selenous acid. Selenic(IV) acid (H₂SeO₃). Monohydrated selenium dioxide

CAS Registry Number: 7783-00-8

Related CAS Registry Numbers(s): 14124-67-5

O=Se(OH)₂

Molecular Formula: H₂O₃Se

Molecular Weight: 128.974

Accurate Mass: 129.916915

Percentage Composition: H 1.56%; O 37.22%; Se 61.22%

Source/Synthesis: Synth. from Se + aq. HNO₃

Use/Importance: Synthetic reagent; oxidising agent. Commercially available. Dietary supplement

Physical Description: Colourless hexagonal cryst.; may be dehydrated to SeO₂

Melting Point: Mp 70°

Solubility: Sol. H₂O (81.3 g per 100 cm³ at 30°), dec. above 70° in soln.; v. sol. EtOH; insol. NH₃

pKa Value: pK_{a1} 2.62; pK_{a2} 8.32 (25°)

Other Data: Many salts known. Gives H₂SeO₄ on oxidation by Cl₂, Br₂. May be reduced to Se

Hazard & Toxicity: Poison

Aldrich: 22985-7

Fluka: 84920

Sigma: S6663

>>Derivative: Dideutero compd.

Synonym(s): Selenious acid-*d*₂. Dideuteroselenious acid

Molecular Formula: D₂O₃Se

Molecular Weight: 130.986

Source/Synthesis: Formed from SeO₂ + D₂O

Physical Description: White cryst.

>>Derivative: Mono-Na salt

>>Derivative: Di-Na salt

>>Derivative: Di-K salt

>>Derivative: Ba salt

References:

Aldrich Library of FT-IR Spectra, 1st edn., 1985, **2**, 1247A, (*ir*)

Wells, A.F. *et al.*, *J.C.S.*, 1949, 1282, (*synth*)

Walchi, H.E., *Phys. Rev.*, 1953, **90**, 331, (*Se-77 nmr*)

Simon, A. *et al.*, *Z. Anorg. Allg. Chem.*, 1959, **301**, 246, (*synth, Raman*)

Bagnall, K.W., *Chemistry of Se, Te, Po*, Elsevier, 1966, 72, (*props, reactions, synth*)

Chirzhikov, D.M. *et al.*, *Selenium and Selenides*, Collets Ltd., London and Wellingborough, 1968, 62, (*rev*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 424, (*synth*)

Gmelin Handbook Inorg. Chem., Syst. No. 10, Suppl. Vol., 1981, **B2**, 196, (*rev, bibl*)

Milne, J. *et al.*, *Inorg. Chem.*, 1985, **24**, 840, (*equilm in aq. HBr*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, SBO000