



>>Entry Name: Magnesium thiosulfate

Synonym(s): Thiosulfuric acid, magnesium salt, 8CI

CAS Registry Number: 10124-53-5

MgS<sub>2</sub>O<sub>3</sub>

Molecular Formula: MgO<sub>3</sub>S<sub>2</sub>

Molecular Weight: 136.435

Accurate Mass: 135.913927

Percentage Composition: Mg 17.81%; O 35.18%; S 47.01%

Source/Synthesis: Prepd. by reaction of either Na<sub>2</sub>S<sub>2</sub>O<sub>3</sub> with MgCl<sub>2</sub> in aq. soln. or MgSO<sub>3</sub> with sulfur in alkaline soln.

Use/Importance: Curing accelerator for Portland cement

Physical Description: Dec. on heating to 300° to form mixtures of MgSO<sub>3</sub> and sulfur

Fluka: 63143

>>Derivative: Hexahydrate

CAS Registry Number: 13446-30-5

Molecular Formula: H<sub>12</sub>MgO<sub>9</sub>S<sub>2</sub>

Molecular Weight: 244.526

Percentage Composition: H 4.95%; Mg 9.94%; O 58.89%; S 26.23%

Physical Description: Hygroscopic colourless orthorhombic cryst. Dec. on heating with H<sub>2</sub>O loss

Solubility: V. sol. H<sub>2</sub>O; insol. EtOH

Aldrich: 43361-6

Sigma: M8404

References:

Miller, F.A. *et al.*, *Anal. Chem.*, 1952, **24**, 1253, (*ir*)

Miller, F.A. *et al.*, *Spectrochim. Acta*, 1960, **16**, 135, (*ir*)

Visweswaramurthy, S., *Acta Cryst.*, 1963, **16**, 933, (*pmr, hexahydrate*)

El Saffar, Z.M., *Acta Cryst. B*, 1969, **25**, 1708, (*pmr, struct, hexahydrate*)

Baggio, S. *et al.*, *Acta Cryst. B*, 1969, **25**, 2650, (*cryst struct, hexahydrate*)

Gabelica, Z., *Bull. Soc. Chim. Belg.*, 1977, **86**, 851, (*ir*)

Hubin, R. *et al.*, *Thermochim. Acta*, 1977, **20**, 395, (*thermal dec*)

Sacki, Y. *et al.*, *CA*, 1979, **159**, 59, (*thermal dec*)

Elerman, Y. *et al.*, *Acta Cryst. C*, 1983, **39**, 515, (*cryst struct, nd, hexahydrate*)

Kaemmerer, K. *et al.*, *CA*, 1984, **101**, 16836, (*pharmacol*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, MAK000; MAK250