



>>Entry Name: Barium hexafluorosilicate(IV)

Synonym(s): Hexafluorosilicate(2-) barium salt, 8Cl. Barium fluosilicate

CAS Registry Number: 17125-80-3

Related CAS Registry Numbers(s): 17084-08-1

Ba[SiF₆]

Molecular Formula: BaF₆Si

Molecular Weight: 279.403

Accurate Mass: 279.872577

Percentage Composition: Ba 49.15%; F 40.80%; Si 10.05%

General Statement: Comprises Ba²⁽⁺⁾ cations and SiF₆²⁽⁻⁾ anions

Source/Synthesis: Synth. by reaction of aq. H₂SiF₆ with Ba(OH)₂ or BaCO₃. Manuf. by treatment of H₂SiF₆ vapour with aq. BaCl₂ in a contactor

Use/Importance: Wood preservative, esp. in combination with pentachlorophenolates

Physical Description: Colourless rhombohedral cryst. Dec. on heating (=430°) to form SiF₄ and BaF₂

Solubility: Spar. sol. H₂O (0.026 g per 100 cm³ at 17°; 0.09 g per 100 cm³ at 100°); insol. EtOH

Hazard & Toxicity: Toxic

Aldrich: 43338-1

References:

Shurvell, H.F., *Can. Spectrosc.*, 1967, **12**, 156, (*ir*)

U.S. Pat., 1968, 3 369 863; *CA*, **68**, 88658, (*manuf*)

Breitinger, D. *et al.*, *J. Solid State Chem.*, 1977, **22**, 233, (*Raman*)

Kolditz, L. *et al.*, *Z. Anorg. Allg. Chem.*, 1979, **452**, 54, (*thermal dec*)

Hoskins, B.F. *et al.*, *Inorg. Chim. Acta*, 1984, **88**, 217, (*cryst struct*)

U.S. Pat., 1984, 345 458; *CA*, **100**, 88140, (*synth, dec*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, BAO750