



>>Entry Name: Germanium fluoride (GeF₄)

Synonym(s): Germanium tetrafluoride. Tetrafluorogermane, 9CI

CAS Registry Number: 7783-58-6

GeF₄ (*T_d*)

Molecular Formula: F₄Ge

Molecular Weight: 148.604

Accurate Mass: 149.914789

Percentage Composition: F 51.14%; Ge 48.86%

Source/Synthesis: Synth. by thermal dec. of BaGeF₆

Physical Description: Gas, thermally stable to 1000°. Fumes strongly in air. Pungent odour. Hydrol. in H₂O to GeO₂ + H₂GeF₆

Melting Point: Mp −15°

Boiling Point: Subl. −37°

Density: d₄⁰ 2.126

Hazard & Toxicity: Attacks the respiratory organs and causes hoarseness

Aldrich: 40150-1

References:

Inorg. Synth., 1953, **4**, 147, (*synth*)

Jezowska-Trzebiatowska *et al.*, *Spectrochim. Acta A*, 1967, **23**, 2631, (*ir*)

Harland, P.W. *et al.*, *Int. J. Mass Spectrom. Ion Phys.*, 1972, **10**, 169, (*ms*)

Bernstein, E.R. *et al.*, *J. Chem. Phys.*, 1977, **67**, 4132, (*Raman*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **10**, 721, (*rev*)

Koehler, J. *et al.*, *J. Less-Common Met.*, 1988, **137**, 333, (*synth, cryst struct*)