



>>Entry Name: Sulfur(VI) chloride fluoride (SClF₅)

Synonym(s): Sulfur chloride pentafluoride. Chloropentafluoro-λ⁶-sulfane

CAS Registry Number: 13780-57-9

ClSF₅ (C_{4v})

Molecular Formula: ClF₅S

Molecular Weight: 162.511

Accurate Mass: 161.932937

Percentage Composition: Cl 21.82%; F 58.45%; S 19.73%

Source/Synthesis: Synth. from ClF + SF₄

Physical Description: Gas, stable to H₂O, dil. H⁽⁺⁾. Rapidly hydrol. in aq. NaOH. Thermally stable at 400°

Melting Point: Mp −64°

Boiling Point: Bp −19.1°

Other Data: V.p. log P = 7.145 − 1083T^{−1}

Hazard & Toxicity: Highly toxic

References:

Kewley, R. *et al.*, *Trans. Faraday Soc.*, 1960, **56**, 1732, (*struct*)

Tullock, C.W. *et al.*, *J.A.C.S.*, 1964, **86**, 357, (*synth*)

Inorg. Synth., 1966, **8**, 160; 1986, **24**, 8, (*synth, ir, reactions*)

Schack, C.J. *et al.*, *Chem. Comm.*, 1969, 1116, (*synth*)

Brauer, G., *Handbuch Prap. Anorg. Chem.*, 3rd edn., Ferdinand Enke Verlag, 1975, **1**, 186, (*synth*)

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