



>>Entry Name: Sulfur(VI) chloride fluoride (SClF<sub>5</sub>)

Synonym(s): Sulfur chloride pentafluoride. Chloropentafluoro-λ<sup>6</sup>-sulfane

CAS Registry Number: 13780-57-9

ClSF<sub>5</sub> (C<sub>4v</sub>)

Molecular Formula: ClF<sub>5</sub>S

Molecular Weight: 162.511

Accurate Mass: 161.932937

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

Source/Synthesis: Synth. from ClF + SF<sub>4</sub>

Physical Description: Gas, stable to H<sub>2</sub>O, dil. H<sup>(+)</sup>. 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<sup>-1</sup>

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*)

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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*)

*Gmelin Handbook Inorg. Chem.*, Syst. No. 9, 1978, **B2**, 273, (*bibl to 1976*)

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