



>>Entry Name: Silicon chloride (SiCl₄), 9Cl

Synonym(s): Silicon tetrachloride. Tetrachlorosilane

CAS Registry Number: 10026-04-7

Extra CAS Registry Numbers(s): 12673-76-6

SiCl₄ (*T*_d)

Molecular Formula: Cl₄Si

Molecular Weight: 169.896

Accurate Mass: 167.852335

Percentage Composition: Cl 83.47%; Si 16.53%

Use/Importance: Many refs. for applications in catalysis of alkene polym., vapour deposition of Si compds., plasma etching processes for electronics, manuf. quartz glass. Starting material for lab. synth. of many Si compds.

Physical Description: Colourless fuming liq.

Melting Point: Mp -70°

Boiling Point: Bp 57.6°

Solubility: Misc. common aprotic org. solvs.

Density: d²⁰ 1.483

Other Data: Hydrol. by H₂O, alkalis

Aldrich: 24992-0

Fluka: 85372

Sigma: S8136

References:

Frost, D.C. *et al.*, *Can. J. Chem.*, 1971, **49**, 4033, (*pe*)

Loewer, R. *et al.*, *Chem.-Ztg.*, 1975, **99**, 33, (*nmr*)

Kirk-Othmer Encycl. Chem. Technol., 3rd edn., Wiley, 1978, **20**, 887-991

Olah, G.A. *et al.*, *Organometallics*, 1982, **1**, 1485, (*Si-29 nmr*)

Rye, R.R. *et al.*, *J. Chem. Phys.*, 1983, **78**, 4321, (*aes*)

Shepherd, B.D. *et al.*, *Organometallics*, 1989, **8**, 2664-2669, (*reactions*)

Shiina, I. *et al.*, *Chem. Lett.*, 1992, 2319-2320, (*catalysis*)

Winkhofer, N. *et al.*, *Angew. Chem., Int. Ed.*, 1994, **106**, 1352-1354, (*reactions*)

Schneider, H. *et al.*, *J. Non-Cryst. Solids*, 1994, **178**, 262-271, (*reactions*)

Rosefid, M. *et al.*, *Phosphorus, Sulfur, Silicon, Relat. Elem.*, 1994, **93-94**, 367-368, (*rev, reactions*)

Unverricht, S. *et al.*, *Stud. Surf. Sci. Catal.*, 1994, **84**, 37-44, (*reactions*)

Lewis, R.J., *Sax's Dangerous Properties of Industrial Materials*, 8th edn., Van Nostrand Reinhold, 1992, SCQ500