



>>Entry Name: Tetrasilane, 9Cl, 8Cl

CAS Registry Number: 7783-29-1

$\text{H}_3\text{SiSiH}_2\text{SiH}_2\text{SiH}_3$

Molecular Formula: H_{10}Si_4

Molecular Weight: 122.421

Accurate Mass: 121.985958

Percentage Composition: H 8.23%; Si 91.77%

Source/Synthesis: Synth. by passing an electric discharge through SiH_4 or by pyrol. of Si_3H_8

Use/Importance: Used in the deposition of silicon films

Physical Description: Liq.

Melting Point: Mp -88.2° . Mp -89.9°

Boiling Point: Bp 107.4° . Bp 108.1°

Density: d_4^{20} 0.792

Refractive Index: n_D^{20} 1.5477

Hazard & Toxicity: Spont. flammable in air

References:

Spanier, E.J. *et al.*, *Inorg. Chem.*, 1962, **1**, 432, (*synth*)

Gokhale, S.D. *et al.*, *Inorg. Chem.*, 1964, **3**, 946, (*ir, nmr*)

Feher, F. *et al.*, *Naturwissenschaften*, 1964, **51**, 461, (*ir, Raman*)

Gokhale, S.D. *et al.*, *J. Inorg. Nucl. Chem.*, 1965, **27**, 1911, (*synth*)

Tebben, E.N. *et al.*, *Inorg. Chem.*, 1969, **8**, 1787, (*ms, synth*)

Feher, F. *et al.*, *Inorg. Nucl. Chem. Lett.*, 1973, **9**, 931; 1974, **10**, 577, (*props, Raman*)

Jenkins, R.L. *et al.*, *J. Organomet. Chem.*, 1975, **86**, 347, (*synth*)

Hahn, J., *Z. Naturforsch., B*, 1980, **35**, 282, (*Si-29 nmr*)

Longeway, P.A. *et al.*, *J.A.C.S.*, 1981, **103**, 6813, (*synth*)