



>>Entry Name: Disilane

Synonym(s): Silicon hydride (Si₂H₆). Disilicane

CAS Registry Number: 1590-87-0

H₃SiSiH₃

Molecular Formula: H₆Si₂

Molecular Weight: 62.218

Accurate Mass: 62.000804

Percentage Composition: H 9.72%; Si 90.28%

Source/Synthesis: Synth. by LiAlH₄ reduction of Si₂Cl₆ or from SiH₄ using an electric discharge or CO₂ laser irradiation

Use/Importance: Used in the vapour deposition of amorphous films of Si and Si compds. for electronic applications

Physical Description: V. reactive gas

Melting Point: Mp -132.5°

Boiling Point: Bp -14.5°

Density: d⁻²⁵ 0.685

Other Data: Dec. at 300°

Hazard & Toxicity: Ignites spontaneously in air. Irritant

Aldrich: 46304-3

References:

Saalfeld, F.E. *et al.*, *Inorg. Chem.*, 1963, **2**, 50, (*ms*)

Van Dyke, C.H. *et al.*, *Inorg. Chem.*, 1964, **3**, 1071, (*pmr*)

Beagley, B. *et al.*, *J. Mol. Struct.*, 1972, **11**, 371, (*ed*)

Ensslin, W. *et al.*, *J.C.S. Faraday 2*, 1975, **71**, 913, (*pe*)

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

Durig, J.R. *et al.*, *J. Chem. Phys.*, 1980, **73**, 4784, (*synth, ir, Raman*)

Sollradl, H. *et al.*, *J. Organomet. Chem.*, 1983, **243**, 257, (*Si-29 nmr*)

Zavelovich, J. *et al.*, *J. Phys. Chem.*, 1989, **93**, 5740, (*synth*)

Merck Index, 11th edn., 1989, No. 3362, (*bibl*)

Luo, Y.R. *et al.*, *J. Phys. Org. Chem.*, 1991, **4**, 562-565, (*heat of formn*)

Synthetic Methods of Organometallic and Inorganic Chemistry, (ed. Hermann, W.A.), Thieme, 1996, **2**, 145-146, (*synth*)