



>>Entry Name: Tris(trimethylsilyl)silane

Synonym(s): 1,1,1,3,3,3-Hexamethyl-2-(trimethylsilyl)trisilane, 9CI

CAS Registry Number: 1873-77-4

$(\text{Me}_3\text{Si})_3\text{SiH}$

Molecular Formula:  $\text{C}_9\text{H}_{28}\text{Si}_4$

Molecular Weight: 248.662

Accurate Mass: 248.126808

Percentage Composition: C 43.47%; H 11.35%; Si 45.18%

Source/Synthesis: Synth. from  $(\text{Me}_3\text{Si})_4\text{Si}$  and MeLi, then  $\text{H}_2\text{O}$

Use/Importance: Commercially available. Undergoes ready cyclisation with 1,6-dienes and 1-en-6-ones forming subst. cyclopentanes; reduces alkyl halides in a radical process, initiated by uv/40° or benzoyl peroxide at 50°

Physical Description: Liq.

Boiling Point: Bp<sub>5</sub> 73°. Bp<sub>1</sub> 50°

Refractive Index: n<sub>D</sub><sup>20</sup> 1.4889 n<sub>D</sub><sup>20</sup> 1.4905

Aldrich: 36071-6

Fluka: 93411

#### References:

Gilman, H. *et al.*, *J. Organomet. Chem.*, 1968, **14**, 91, (synth)

Buerger, H. *et al.*, *J. Organomet. Chem.*, 1969, **18**, 299, (synth, ir, pmr, Raman)

Reich, P. *et al.*, *Acta Phys. Pol. A*, 1980, **58**, 665, (ir, Raman)

Doun, S.K. *et al.*, *J. Mol. Struct.*, 1980, **63**, 249, (struct)

Marsmann, H.C. *et al.*, *Z. Naturforsch., B*, 1980, **35**, 1541, (Si-29 nmr)

Chatgililoglu, C. *et al.*, *J.O.C.*, 1988, **53**, 3641, (use, redn of alkyl halides)

*Fieser and Fieser's Reagents for Organic Synthesis*, Wiley, 1990, **15**, 358, (use)

Kulicke, K. *et al.*, *Synlett*, 1990, 91, (use)

Arya, P. *et al.*, *Tet. Lett.*, 1991, **32**, 2853, (use)