



>>Entry Name: Tetrakis(trimethylsilyl)silane

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

CAS Registry Number: 4098-98-0

$(\text{Me}_3\text{Si})_4\text{Si}$

Molecular Formula: $\text{C}_{12}\text{H}_{36}\text{Si}_5$

Molecular Weight: 320.844

Accurate Mass: 320.166335

Percentage Composition: C 44.92%; H 11.31%; Si 43.77%

Source/Synthesis: Synth. by AlCl_3 rearrangement of $\text{Me}(\text{Me}_2\text{Si})_5\text{Me}$

Use/Importance: Commercially available. Mediates photochem. alkylation of heteroaromatic bases with alkyl halides. Solid-state nmr reference standard

Physical Description: Solid or waxy cryst.

Melting Point: Mp 261-263°. Mp 319-321° (sealed tube)

Boiling Point: Subl. 265°

Aldrich: 32992-4

Fluka: 87642

References:

Aldrich Library of ^{13}C and ^1H FT NMR Spectra, 1992, **3**, 637C, (nmr)

Gilman, H. *et al.*, *J.A.C.S.*, 1964, **86**, 1454, (synth)

Pitt, C.G. *et al.*, *J.A.C.S.*, 1970, **92**, 519, (ms)

Buerger, H. *et al.*, *Spectrochim. Acta*, 1970, **26**, 685, (ir, Raman, cryst struct)

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

Ishikawa, M. *et al.*, *J.A.C.S.*, 1981, **103**, 4845, (synth, Si-29 nmr, pmr)

Togo, H. *et al.*, *Chem. Lett.*, 1991, 2063, (use)

Heine, A. *et al.*, *Inorg. Chem.*, 1993, **32**, 2694-2698, (cryst struct)

Synthetic Methods of Organometallic and Inorganic Chemistry, (ed. Hermann, W.A.), Thieme, 1996, **2**, 186-192, (synth, ir, pmr, cmr, Si-29 nmr)