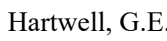
>>**Entry Name: [(Trimethylsilyl)methyl]lithium,** 9Cl
Synonym(s): Lithiomethyltrimethylsilane. Lithio(trimethylsilyl)methane

CAS Registry Number: 1822-00-0



Molecular Formula: $C_4H_{11}LiSi$
Molecular Weight: 94.157
Accurate Mass: 94.079005
Percentage Composition: C 51.03%; H 11.77%; Li 7.37%; Si 29.83%

Source/Synthesis: Usually synth. from Me_3SiCH_2Cl and Li
Use/Importance: Commercially available reagent for introducing ligand lacking β-hydrogen atoms; for Peterson olefination; for conversion of aldehydes and acids to β,γ-unsatd. esters, amides and nitriles via intermed. trimethylsilylmethyl ketones; substitutes esters, especially of hindered acids to α-silyl ketones
Physical Description: Colourless cryst.
Other Data: Dec. at 150° giving [μ-[(Trimethylsilyl)methylene]]dilithium FJL83-P
Hazard & Toxicity: Burns spontaneously in air

Aldrich: 29705-4
Fluka: 92792

>>**Derivative:** Hexamer

Molecular Formula: $C_{24}H_{66}Li_6Si_6$
Molecular Weight: 564.944
Accurate Mass: 564.47403
Percentage Composition: C 51.03%; H 11.77%; Li 7.37%; Si 29.83%
Physical Description: Monoclinic cryst. (pentane)
Melting Point: Mp 106-108°
Boiling Point: $Subl._{0.00001}$ 100°

References:

Hartwell, G.E. *et al.*, *Inorg. Chem.*, 1964, **3**, 1656-1657; 1966, **5**, 1257-1259, *(synth, pmr, ms)*
Baney, R.H. *et al.*, *Inorg. Chem.*, 1964, **3**, 1657, *(struct)*
Peterson, D.J.*, J. Organomet. Chem.*, 1967, **9**, 373-374, *(synth, pmr)*
Peterson, D.J.*, J.O.C.*, 1968, **33**, 780, *(use, methylenation)*
Ruden, R.A. *et al.*, *Synth. Commun.*, 1975, **5**, 15-19, *(reactions)*
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1977, **6**, 635; **12**, 105; **10**, 433; **9**, 495; **11**, 581; **6**, 637, *(reactions)*
Demuth, M.*, Helv. Chim. Acta*, 1978, **61**, 3136-3138, *(use, subst of esters)*
Inorg. Synth., 1986, **24**, 95-97, *(synth, props, pmr)*
Tecle', B. *et al.*, *J. Organomet. Chem.*, 1986, **317**, 267-275, *(cryst struct)*
Thomas, R.D. *et al.*, *J. Organomet. Chem.*, 1987, **328**, 239-248, *(cmr)*
Gais, H.-J. *et al.*, *Angew. Chem., Int. Ed.*, 1988, **27**, 1092-1094, *(Si-29 nmr)*
Kawa, H. *et al.*, *Polyhedron*, 1988, **7**, 2023-2025, *(thermol)*
Negishi, E.-i. *et al.*, *J.O.C.*, 1990, **55**, 5406-5409, *(synth)*
Hiiro, T. *et al.*, *Organometallics*, 1990, **9**, 1355-1357, *(synth)*
Encyclopaedia of Reagents for Organic Synthesis, (ed. Paquette, L.A.), Wiley, 1995, **7**, 5280-5282, *(rev, use)*
Synthetic Methods of Organometallic and Inorganic Chemistry, (ed. Hermann, W.A.), Thieme, 1996, **2**, 11, *(synth)*