



>>Entry Name: Trimethylsilane, 9Cl

CAS Registry Number: 993-07-7

Related CAS Registry Numbers(s): 16571-41-8

Me₃SiH

Molecular Formula: C₃H₁₀Si

Molecular Weight: 74.197

Accurate Mass: 74.055177

Percentage Composition: C 48.56%; H 13.58%; Si 37.85%

Source/Synthesis: Synth. from Me₃SiCl + HCl + Mg in HMPT

Use/Importance: Reducing and hydrosilylating agent; undergoes Ni complex catalysed hydrosilylation and telomerisation of dienes, and Pd-catalysed telomerisation of butadiene; hydrosilylates alkynes in presence of Pt, Rh or Pd catalysts; reacts with Py in presence of Pd by 1,4-addn.; undergoes 1,4-addn. to enones in presence of TiCl₄

Physical Description: Gas

Melting Point: Mp –135.89°

Boiling Point: Bp 6.7°

Fluka: 92717

References:

- Tannenbaum, S. *et al.*, *J.A.C.S.*, 1953, **75**, 3753, (*synth*)
Cook, N.C. *et al.*, *J.A.C.S.*, 1965, **87**, 3283, (*use, addn to Py*)
Fieser and Fieser's Reagents for Organic Synthesis, Wiley, 1967, **1**, 1235, (*use*)
Takahashi, S. *et al.*, *Chem. Comm.*, 1969, 161, (*use, telomerisation of butadiene*)
Calas, R. *et al.*, *J. Organomet. Chem.*, 1970, **22**, 561, (*synth*)
Dung, J.R. *et al.*, *Appl. Spectrosc.*, 1971, **25**, 182, (*ir, Raman*)
Yur'ev, V.P. *et al.*, *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 1975, **24**, 1772, (*use, 1,4-addn to dienes*)
Krause, J.R. *et al.*, *Int. J. Mass Spectrom. Ion Phys.*, 1975, **18**, 303, (*ms*)
Harris, R.K. *et al.*, *J. Magn. Reson.*, 1975, **17**, 174, (*cmr, Si-29 nmr*)
Yur'ev, V.P. *et al.*, *J. Gen. Chem. USSR (Engl. Transl.)*, 1976, **46**, 368, (*use, 1,4-addn to dienes*)
Yoshii, E. *et al.*, *Chem. Pharm. Bull.*, 1977, **25**, 1468, (*use, addn to enones*)
Kusumoto, T. *et al.*, *Chem. Lett.*, 1985, 1405, (*use, hydrosilylation of alkynes*)
Chang, T.C.T. *et al.*, *Organometallics*, 1987, **6**, 2394, (*use*)
Jancke, H. *et al.*, *J. Organomet. Chem.*, 1988, **354**, 23, (*Si-29 nmr*)
Suzuki, T. *et al.*, *J. Organomet. Chem.*, 1990, **396**, 299, (*use*)