



>>Entry Name: Trimethylsilanol, 9CI

CAS Registry Number: 1066-40-6
Me3SiOH

Molecular Formula: C3H10OSi
Molecular Weight: 90.197
Accurate Mass: 90.050092
Percentage Composition: C 39.95%; H 11.17%; O 17.74%; Si 31.14%

Source/Synthesis: Synth. from MeCONHSiMe3 + H2O

>>Derivative: Li salt

Synonym(s): Trimethylsilanol lithium salt, 8CI. Lithium trimethylsilanolate. (Trimethylsiloxy)lithium

CAS Registry Number: 2004-14-0

Molecular Formula: C3H9LiOSi
Molecular Weight: 96.13
Accurate Mass: 96.05827
Percentage Composition: C 37.48%; H 9.44%; Li 7.22%; O 16.64%; Si 29.22%
Source/Synthesis: Obt. by cleavage of hexamethyldisiloxane with MeLi in anhyd. THF/Et₂O mixt., or from Li + parent compd.
Use/Importance: Commercially available in solid state or in CH2Cl2 soln. Org. equiv. of LiOH. Used in synth. of anhyd. Li salts of carboxylic acids and of triazaphosphininolates. Also used to initiate 'living' polym. of siloxanes
Physical Description: Moisture-sensitive transparent needles
Boiling Point: Subl.₁ 180°
Other Data: Reaction with CS2 gives LiS2COSiMe3

Aldrich: 34547-4

Fluka: 62624

>>Derivative: Na salt

Synonym(s): Trimethylsilanol sodium salt, 8CI. Sodium trimethylsilanolate. (Trimethylsiloxy)sodium

CAS Registry Number: 18027-10-6

Molecular Formula: C3H9NaOSi
Molecular Weight: 112.179
Accurate Mass: 112.032034
Percentage Composition: C 32.12%; H 8.09%; Na 20.49%; O 14.26%; Si 25.04%
Source/Synthesis: Obt. by addn. of sodium metal to the hydrol. product of Me3SiCl in Et₂O. Also formed by the action of conc. NaOH on hexamethyldisiloxane; higher yields are obt. when Na₂O or NaNH₂ replace NaOH
Use/Importance: Commercially available as solid or in soln. (CH2Cl2 or THF). Org. equiv. of NaOH. Used for direct conversion of carboxylic acid derivs. to their anhyd. Na salts. Also used to initiate 'living' polym. of siloxanes. Reaction with SiCl4 at -78° in pentane/Et₂O mixts. affords (Me3SiO)4-nSiCln. Similarly reaction with TiCl4 in C6H6 → Ti(OSiMe3)4
Physical Description: Moisture-sensitive white cryst. (Me2CO)
Other Data: Dec. at 147-150°
Aldrich: 32957-6
Fluka: 72058
Rare Chemicals Library: S58605-6

>>Derivative: Na salt, trihydrate

CAS Registry Number: 82144-19-2
Molecular Formula: C3H15NaO4Si
Molecular Weight: 166.224
Percentage Composition: C 21.68%; H 9.10%; Na 13.83%; O 38.50%; Si 16.90%
Source/Synthesis: Obt. by cryst. from aq. solns. containing NaOSiMe3
Physical Description: Colourless monoclinic cryst. (H2O)
Solubility: Sol. H2O