



>>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-n}SiCl_n. 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