



>>Entry Name: Tributylstannylmethanol, 9CI

Synonym(s): Tributyl(hydroxymethyl)stannane

CAS Registry Number: 27490-33-1

$(\text{H}_3\text{CCH}_2\text{CH}_2\text{CH}_2)_3\text{SnCH}_2\text{OH}$

Molecular Formula: $\text{C}_{13}\text{H}_{30}\text{OSn}$

Molecular Weight: 321.089

Accurate Mass: 320.131865

Percentage Composition: C 48.63%; H 9.42%; O 4.98%; Sn 36.97%

Source/Synthesis: Synth. from Bu_3SnLi and HCHO

Use/Importance: Synth. for $(^-)\text{CH}_2\text{O}^-$; converted to LiCH_2OLi by BuLi and substs. alkyl halides and adds to ketones; couples with aryl halides in the presence of Pd complex catalysts

Physical Description: Unstable, v. moisture-sensitive liq.

>>Derivative: Li salt

CAS Registry Number: 74141-08-5

Molecular Formula: $\text{C}_{13}\text{H}_{29}\text{LiOSn}$

Molecular Weight: 327.022

Accurate Mass: 326.140043

Percentage Composition: C 47.75%; H 8.94%; Li 2.12%; O 4.89%; Sn 36.30%

Source/Synthesis: Synth. *in situ* from the parent compd. and BuLi

Use/Importance: Reacts with sulfonyl halides to give stannylmethyl sulfonates

Solubility: Sol. THF

>>Derivative: Benzoyl

CAS Registry Number: 74141-10-9

Molecular Formula: $\text{C}_{20}\text{H}_{34}\text{O}_2\text{Sn}$

Molecular Weight: 425.197

Accurate Mass: 424.15808

Percentage Composition: C 56.50%; H 8.06%; O 7.53%; Sn 27.92%

Source/Synthesis: Obt. by trapping the Li salt with benzoyl chloride

Physical Description: Liq.

Boiling Point: $\text{Bp}_{0.05} 122^\circ$

Refractive Index: $n_D^{20} 1.5162$

>>Derivative: Methanesulfonyl

CAS Registry Number: 86269-11-6

Molecular Formula: $\text{C}_{14}\text{H}_{32}\text{O}_3\text{SSn}$

Molecular Weight: 399.181

Accurate Mass: 398.109415

Percentage Composition: C 42.12%; H 8.08%; O 12.02%; S 8.03%; Sn 29.74%

Source/Synthesis: Synth. by trapping the Li salt with MeSO_2Cl

Physical Description: Liq.

Boiling Point: $\text{Bp}_{0.1} 140^\circ$

>>Derivative: (Ethoxyethoxy)methyl ether

CAS Registry Number: 66222-26-2

Molecular Formula: $\text{C}_{18}\text{H}_{40}\text{O}_3\text{Sn}$

Molecular Weight: 423.222

Accurate Mass: 422.199945

Percentage Composition: C 51.08%; H 9.53%; O 11.34%; Sn 28.05%

Source/Synthesis: Obt. by trapping the Li salt with α -chloroethyl ethyl ether

Physical Description: Liq.

References:

Seebach, D. *et al.*, *Angew. Chem., Int. Ed.*, 1976, **15**, 438, (*use, subst of alkyl halides, addn to ketones*)

Still, W.C. *et al.*, *J.A.C.S.*, 1978, **100**, 1481, (*synth, pmr, ir, anal, (ethoxyethoxy)methyl ether*)

Meyer, N. *et al.*, *Chem. Ber.*, 1980, **113**, 1290, (*synth, pmr, anal, ir, Li salt, benzoyl*)

Seitz, D. *et al.*, *Synth. Commun.*, 1983, **13**, 129, (*synth, ir, pmr, anal, methanesulfonyl*)

Stille, J.K., *Angew. Chem., Int. Ed.*, 1986, **25**, 508, (*use, subst of aryl halides*)