



>>Entry Name: Triethylhydroborate(1-), 12Cl, 9Cl, 8Cl

Synonym(s): Triethylborohydride

CAS Registry Number: 75338-98-6

[Et₃BH]⁽⁻⁾

Molecular Formula: C₆H₁₆B⁽⁻⁾

Molecular Weight: 99.003

Accurate Mass: 99.134505

Percentage Composition: C 72.79%; H 16.29%; B 10.92%

>>Derivative: Li salt

Synonym(s): Lithium triethylhydroborate, 10Cl, 9Cl, 8Cl. Lithium triethylborohydride. Superhydride

CAS Registry Number: 22560-16-3

Molecular Formula: C₆H₁₆BLi

Molecular Weight: 105.944

Accurate Mass: 106.150508

Percentage Composition: C 68.02%; H 15.22%; B 10.20%; Li 6.55%

Use/Importance: Commercially available as THF soln. Much more powerful than LiAlH₄ eg as nucleophile for S_N2 displacements; reducing agent. Monodeuterio deriv. is used for deuterium incorporation

Physical Description: Air- and moisture-sensitive cryst. (C₆H₆)

Melting Point: Mp 66-67°

Solubility: Sol. THF, C₆H₆

Hazard & Toxicity: Flammable, even in soln.

Aldrich: 17972-8

Sigma: L3385

>>Derivative: Na salt

Synonym(s): Sodium triethylhydroborate, 10Cl, 9Cl, 8Cl. Sodium triethylborohydride

CAS Registry Number: 17979-81-6

Molecular Formula: C₆H₁₆BNa

Molecular Weight: 121.993

Accurate Mass: 122.124272

Percentage Composition: C 59.07%; H 13.22%; B 8.86%; Na 18.85%

Use/Importance: Commercially available in soln. (in Et₂O, THF, or toluene). Reducing agent for organic and organometallic syntheses

Physical Description: Air- and moisture-sensitive colourless cryst. when pure (often obt. as dark oil)

Melting Point: Mp 30°

Solubility: Sol. Et₂O, THF, toluene

Aldrich: 21341-1

Fluka: 72054

Sigma: S1759

>>Derivative: K salt

Synonym(s): Potassium triethylhydroborate, 10Cl, 9Cl, 8Cl. Potassium triethylborohydride

CAS Registry Number: 22560-21-0

Molecular Formula: C₆H₁₆BK

Molecular Weight: 138.102

Percentage Composition: C 52.18%; H 11.68%; B 7.83%; K 28.31%

Physical Description: Air- and moisture-sensitive

Aldrich: 21343-8

References:

- Brown, H.C. *et al.*, *J.A.C.S.*, 1973, **95**, 1669, (*use*)
Mielczarek, I., *Wiad. Chem.*, 1973, **27**, 814; *CA*, **80**, 46964x, (*rev*)
Inorg. Synth., 1974, **15**, 136, (*synth*)
Brown, C.A., *J. Organomet. Chem.*, 1978, **156**, C17, (*props*)
Brown, H.C. *et al.*, *J.O.C.*, 1979, **44**, 467, (*props*)
Yamamoto, Y. *et al.*, *CA*, 1980, **92**, 139884j, (*rev*)
Dervan, P.B. *et al.*, *J.A.C.S.*, 1980, **102**, 3863, (*props*)
Krishnamurthy, S. *et al.*, *J.O.C.*, 1980, **45**, 849, (*use*)
Brown, H.C. *et al.*, *J. Organomet. Chem.*, 1980, **188**, 1, (*synth, nmr, ir*)
Selover, J.C. *et al.*, *J. Organomet. Chem.*, 1981, **206**, 317, (*props*)