



>>Entry Name: 1-Methylpropyllithium, 9Cl

Synonym(s): *sec*-Butyllithium, 8Cl. 2-Lithiobutane. Lithium *sec*-butyl

CAS Registry Number: 598-30-1

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

Molecular Formula: $\text{C}_4\text{H}_9\text{Li}$

Molecular Weight: 64.056

Accurate Mass: 64.086428

Percentage Composition: C 75.00%; H 14.16%; Li 10.84%

Source/Synthesis: Synth. e.g. from 2-chlorobutane and Li

Use/Importance: Polym. initiator. Commercially available. Metallates arenes, benzyl ethers, allowing oxidative cleavage with $\text{B}(\text{OMe})_3/\text{H}_2\text{O}_2$; with FeCl_3 , reagent for deoxygenation of epoxides; effects Fries rearrangement of *o*-bromophenyl ester to give *ortho*-phenolic ketone

Solubility: Sol. ethers, hydrocarbons

Other Data: Slowly eliminates LiH

Aldrich: 19559-6

Fluka: 20185

>>Derivative: Tetramer

CAS Registry Number: 90269-51-5

Molecular Formula: $\text{C}_{16}\text{H}_{36}\text{Li}_4$

Molecular Weight: 256.224

Accurate Mass: 256.345712

Percentage Composition: C 75.00%; H 14.16%; Li 10.84%

References:

- Gilman, H. *et al.*, *J.A.C.S.*, 1941, **63**, 2479, (*synth*)
Fujisawa, T. *et al.*, *Chem. Lett.*, 1974, 883, (*use, deoxygenation of epoxides*)
Wakefield, B.J., *The Chemistry of Organolithium Compds.*, Pergamon, 1974, (*rev*)
Bywater, S. *et al.*, *J. Phys. Chem.*, 1975, **79**, 2148, (*cmr*)
Sergutin, V.M. *et al.*, *J. Organomet. Chem.*, 1979, **170**, 151, (*ir*)
Evans, D.A. *et al.*, *J.A.C.S.*, 1979, **101**, 6789, (*use, metallation of benzyl ethers*)
Watanabe, M. *et al.*, *J.A.C.S.*, 1980, **102**, 1457, (*use, metallation of arenes*)
Catala, J.M. *et al.*, *J. Organomet. Chem.*, 1981, **219**, 139, (*pmr*)
Plavšić, D. *et al.*, *J. Phys. Chem.*, 1984, **88**, 5144; 1986, **90**, 2075, (*ms, pe*)
Fraenkel, G. *et al.*, *J.A.C.S.*, 1984, **106**, 255, (*nmr*)
Fraenkel, G. *et al.*, *Lithium: Curr. Appl. Sci. Med. Technol.*, (Bach, R.O.,Ed.), Wiley-Interscience, New York, 1985, 273, (*cmr, Li-6 nmr*)
Thomas, R.D. *et al.*, *J. Organomet. Chem.*, 1987, **328**, 239, (*cmr*)
Miller, J.A., *J.O.C.*, 1987, **52**, 322, (*use, Fries rearrangement*)
Thomas, R.D. *et al.*, *Organometallics*, 1987, **6**, 565, (*cmr, Li-6 nmr*)
Bauer, W. *et al.*, *Organometallics*, 1987, **6**, 2371, (*props, pmr, cmr, Li-6 nmr, Li-7 nmr*)
Arnett, E.M. *et al.*, *J.A.C.S.*, 1991, **113**, 7068, (*thermodyn*)
Rawson, D.J. *et al.*, *Tet. Lett.*, 1991, **32**, 2095, (*synth*)
Paetow, M. *et al.*, *Tet. Lett.*, 1992, **33**, 5323, (*reactions*)
Beak, P. *et al.*, *J.A.C.S.*, 1993, **115**, 2516, (*deriv, reactions*)
Schmitz, R.F. *et al.*, *Tetrahedron*, 1994, **50**, 5933, (*props, reactions*)