



>>Entry Name: Dibutylzinc

CAS Registry Number: 1119-90-0



Molecular Formula: $\text{C}_8\text{H}_{18}\text{Zn}$

Molecular Weight: 179.62

Accurate Mass: 178.069995

Percentage Composition: C 53.50%; H 10.10%; Zn 36.40%

Source/Synthesis: Synth. from the Grignard reagent and ZnCl_2

Use/Importance: Adds to aldehydes; substitutes acyl halides in presence of $\text{Pd}(0)$; gives conjugate addn. to enones in presence of chiral aminoalcohols; adds 1,2- to alkynyl aldehydes; used for kinetic resolution of racemic aldehydes in presence of chiral aminoalcohols; reacts with *o*-phthalaldehyde in presence of a chiral catalyst → 3-alkyl chiral phthalides

Physical Description: Oil

Boiling Point: Bp_9 82°. Bp_4 55-60°

Other Data: Readily oxid. and hydrol.

Fluka: 34905

>>Derivative: Bipy complex

CAS Registry Number: 13978-44-4

Molecular Formula: $\text{C}_{18}\text{H}_{26}\text{N}_2\text{Zn}$

Molecular Weight: 335.807

Accurate Mass: 334.138743

Percentage Composition: C 64.38%; H 7.80%; N 8.34%; Zn 19.47%

Physical Description: Red cryst.

Melting Point: Mp 57-58°

References:

Org. Synth., Coll. Vol., 2, 1943, 184

Abraham, M.H., *J.C.S.*, 1960, 4130, (*synth*)

Sheverdina, N.I. *et al.*, *Bull. Acad. Sci. USSR, Div. Chem. Sci. (Engl. Transl.)*, 1967, 561, (*synth*)

Hofstee, H.K. *et al.*, *J. Organomet. Chem.*, 1978, **153**, 245, (*pmr, uv, cmr*)

Grey, R.A. *et al.*, *J.O.C.*, 1984, **49**, 2288, (*use, subst of acyl halides*)

Sokolovskii, A.E. *et al.*, *Zh. Obshch. Khim.*, 1984, **54**, 2692; 1989, **59**, 2336, (*thermodyn, thermol*)

Soai, K. *et al.*, *Chem. Comm.*, 1989, 516, (*use, addn to enones*)

Soai, K. *et al.*, *Bull. Chem. Soc. Jpn.*, 1990, **63**, 2129, (*use, diastereoselective addn*)

Niwa, S. *et al.*, *J.C.S. Perkin 1*, 1990, 937; 1991, 2025, (*use, 1,2-addn to aldehydes, resoln*)

Soai, K. *et al.*, *J.O.C.*, 1990, **55**, 4832, (*use*)

Watanabe, M. *et al.*, *J.O.C.*, 1992, **57**, 742, (*use*)

Charette, A.B. *et al.*, *J.A.C.S.*, 1998, **120**, 5114-5115, (*synth*)

Synthetic Methods of Organometallic and Inorganic Chemistry, (ed. Hermann, W.A.), Thieme, 1999, **5**, 142-145, (*synth*)