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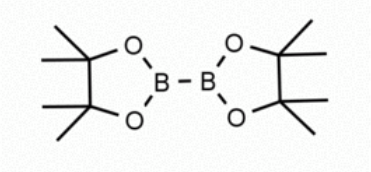
Technical Data Sheet
Catalog Number: **D6878**

For research use only
Not intended or approved for diagnostic or therapeutic use.

Product Name: Bis(pinacolato)diboron

Catalog Number: **D6878**



Sizes Available: 5 g, 25 g, 100 g, 500 g, 1 kg, and larger sizes available

Molecular weight: 253.94 g/mol

Molecular Formula: $C_{12}H_{24}B_2O_4$

CAS Number: 73183-34-3

Storage: Store at–20 °C, under dry conditions.

Synonyms: Bis(pinacolato)diboron, 73183-34-3, bis(pinacolato)diborane, 4,4,4',4',5,5,5',5', Octamethyl-2,2'-bi(1,3,2-dioxaborolane), Pinacol diborane, 4,4,4',4',5,5,5',5'-Octamethyl-2,2'-bi-1,3,2-dioxaborolane, Diboron pinacol ester, B2Pin2

Field of Interest: Organoboron Synthesis, Iridium catalyzed reactions, Transition Metal Reactions,

Background: Bis(pinacolato)diboron is a versatile reagent that uses Ir-catalyzed, or other transition metals for the C-H borylation of arenes, heteroarenes, and benzylic positions of alkylarenes or pinacolborane furnished aryl-, heteroaryl-, and benzylboron compounds [1,2] This reagent can react with many different functionals and scaffolds under metal catalyzed reactions, including polymers or terminal alkenes to generate diols. [3,4]

References:

1) Ishiyama, Tatsuo, Miyaura, Norio, Metal-catalyzed reactions of diborons for synthesis of organoboron compounds, Chemical Record (2004), 3(5), 271-280. DOI:10.1002/tcr.10068

2) Billingsley, Kelvin L., Barder, Timothy E., Buchwald, Stephen L., Palladium-catalyzed borylation of aryl chlorides: scope, applications, and computational studies, Angewandte Chemie, International Edition (2007), 46(28), 5359-5363. DOI:10.1002/anie.200701551.

3) Jo, Tae Soo, Kim, Se Hye, Shin, Jihoon, Bae, Chulsung, Highly Efficient Incorporation of Functional Groups into Aromatic Main-Chain Polymer Using Iridium-Catalyzed C-H Activation and Suzuki-Miyaura Reaction, Journal of the American Chemical Society (2009), 131(5), 1656-1657, DOI:10.1021/ja808374e.

4) Toribatake, Kenji, Nishiyama, Hisao, Asymmetric Diboration of Terminal Alkenes with Rhodium Catalyst and Subsequent Oxidation: Enantioselective Synthesis of Optically Active 1,2-Diols, Angewandte Chemie, International Edition (2013), 52(42), 11011-11015. DOI:10.1002/anie.201305181