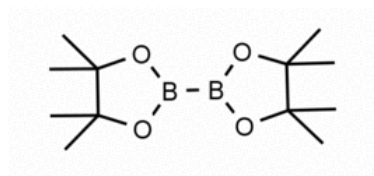


Product Name: Bis(pinacolato)diboron

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: C₁₂H₂₄B₂O₄

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

Hazardous Properties and Cautions: The toxicological and pharmacological properties of this compound are not fully known. For further information see the MSDS on request. **Bis(pinacolato)diboron** is manufactured, shipped according to standard practices, and intended for research and development in a laboratory utilizing prudent procedures for handling chemicals of unknown toxicity, under the supervision of persons technically qualified to evaluate potential risks and authorized to enforce appropriate health and safety measures. As with all research chemicals, precautions should be taken to avoid unnecessary exposures or risks.

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