



LITHIUM DIPHENYLPHOSPHIDE IN THF (LiDPP)

CAS No. 4541-02-0

QS-PDS-032 Revision: 00

Product Names Lithium diphenylphosphide, LiDPP

Formula $C_6H_{10}LiP$

Appearance Clear, red solution

Application Lithium diphenylphosphide is a **DEVELOPMENTAL** product used primarily in the selective dealkylation of methyl aryl ethers. This reagent is also used in preparing other phosphine complexes for Manganese and Rhodium catalysts in oxidation and hydrogenation reactions. Please see: 1) *Acros Organics Acta* **1995**, 1(1), 40-1; 2) *Inorganica Chimica Acta* **1995**, 230(1-2), 219-23; 3) *Journal of Molecular Catalysis* **1981**, 11(2-3), 313-22.

Product Specification

| | <u>Guaranteed*</u> |
|---------------------------------|--------------------|
| Lithium diphenylphosphide, wt % | 10-15% |
| Tetrahydrofuran, wt % | 85-90% |
| Lithium chloride | 2-4% |

**This product can be made to agreed upon customer specifications.*

Solvent Tetrahydrofuran (THF)

| Physical Properties | |
|----------------------------|----------------|
| Molecular weight | 192.13 |
| Density @20°C | 0.915 g/ml |
| Boiling point of THF | 66°C |
| Percent volatile | 85-90% |
| Pyrophoricity | Non-pyrophoric |

Solubility Incompatible with water, air, acids

Thermal Stability A 10 wt% solution of this material decomposes at <0.002% per day at -28°C, 0.04% per day at 5°C, 0.24 wt% per day at ambient temperature and 1.8 wt% per day at 40°C. Solutions should be stored and shipped cold. Decomposition does not lead to appreciable heat or pressure build up.



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Toxicity/Safety Data Flammable liquid. Water reactive. In case of fire do not use water or carbon dioxide.

Corrosive to eyes (may cause blindness), skin, nose, throat and stomach. May be harmful if swallowed, inhaled, or absorbed through skin. May cause neurotoxic effects.

ADDITIONAL INFORMATION ON SAFETY IS CONTAINED IN THE OPTIMA NEW PRODUCT DATA SHEET (NPDS) AVAILABLE FOR THIS PRODUCT.

Handling/Storage/Disposal Keep away from water, air, and oxidizing materials. Wear full face protection and gloves. Use in a closed system under inert atmosphere of argon or nitrogen. Keep away from sources of ignition, water, air, acids and oxidizing agents. Do not get in eyes, on skin or clothing. Protect storage container against leaks and physical damage.

Shipping Containers Sample Glass Bottles 125 mL and 500 mL

Shipping Limitations Shipments of LiDPP are described as "Flammable liquid, corrosive, N. O. S. (LITHIUM DIPHENYLPHOSPHIDE IN TETRAHYDROFURAN, SOLUTION) 3 (8), UN2924, PG II." Shipments require "Flammable" and "Corrosive" labels.

| | |
|------------------|--|
| Post, Parcel | Not acceptable |
| Sea | Class 3 (8) (IMDG) |
| Road, Rail (USA) | Class 3 (8) (DOT) |
| Road, Rail (EU) | Class 3.26b (RID/ADR) |
| Air | Class 3 (8) (IATA) |
| | 2.5 L maximum per inner glass container. |
| | 5 L maximum per singer/outer container. |
| | Cargo aircraft only |

For shipments within Europe, labeling for supply requirements are:

| | |
|-------------|--------------------------------|
| F | Highly Flammable |
| C | Corrosive |
| N | Dangerous for the Environment |
| R&S Phrases | See Material Safety Data Sheet |

Responsible Care® initiative dictates that all shipments must be transported in a DOT-approved vehicle in a responsible manner (i.e., no flat bed trucks).

Additional Resources Refer to the Organometallics and Reactive Specialty Organics Safe Handling Guide.