



## Material Safety Data Sheet

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### SECTION 1: Product Identification

<b>Product name</b>	1,2-Bis(phenylphosphino)ethane (10 wt.% in hexane)
<b>CAS #</b>	18899-64-4
<b>Catalog #</b>	0159907
<b>Chemical family</b>	Organophosphine ligand

### SECTION 2: Composition, Information on Ingredients

Component	%	CAS #	EINECS #	Hazard Symbol	R-Phrase
1,2-Bis(phenylphosphino)ethane	10	18899-64-4	none	F	17
Hexane	90	110-54-3	203-777-6	F XN N	11 38 48/20 51/53 62 65 67

### SECTION 3: Hazard Identification

<b>Emergency overview</b>	Highly flammable liquid. Irritating for eyes, skin, and respiratory tract.
<b>Eye contact</b>	Cause severe irritation of the eyes.
<b>Skin contact</b>	Causes severe irritation of the skin.
<b>Inhalation</b>	Causes severe irritation of the respiratory tract. High concentration may cause damage of central nervous system.
<b>Ingestion</b>	Causes irritation of the respiratory tract. May cause vomiting and headache.
<b>Chronic health effects</b>	Not available.

### SECTION 4: First Aid Measures

<b>Eye exposure</b>	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.
<b>Skin exposure</b>	Wash the affected area with water. Remove contaminated if necessary. Seek medical assistance if irritation persists.
<b>Inhalation</b>	Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In such cases seek immediate medical assistance.
<b>Ingestion</b>	Do NOT induce vomiting without medical directing. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid immediately.

### SECTION 5: Fire Fighting Measures

<b>General information</b>	Highly flammable liquid. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. If involved in fire material may emit toxic fumes and phosphorus oxides.
<b>Extinguishing media</b>	Use dry chemical, carbon dioxide or appropriate chemical foam.

### SECTION 6: Accidental Release Measures

<b>Spill and leak procedures</b>	If spilled, all personnel must be immediately evacuated and the area sealed off. The material may ignite releasing toxic and corrosive fumes of phosphorus pentoxide. Small spills can be mixed with vermiculite or other suitable inert absorbents and placed in a suitable container.
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SECTION 7: Handling and Storage	
<b>Handling</b>	Do not get in eyes, on skin, or on clothing. Keep away from heat. Material should be transferred under an inert atmosphere of nitrogen or argon in a efficient fume hood.
<b>Storage</b>	Store in a cool, dry place. Keep away from heat. Store in a tightly closed container under an inert atmosphere.
SECTION 8: Exposure Controls and Personal Protection	
<b>Eye protection</b>	Always wear approved safety glasses when handling a chemical substance in the laboratory.
<b>Skin protection</b>	Wear protective gloves.
<b>Ventilation</b>	Handling material in an efficient fume hood.
<b>Respirator</b>	Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.
SECTION 9: Physical and Chemical Properties	
<b>Appearance</b>	Colorless liquid.
<b>Odor</b>	Pungent and noxious odor (for hexane).
<b>Boiling point</b>	68 °C (for hexane)
<b>Flash point</b>	-7 °F (for hexane)
<b>Solubility in water</b>	Insoluble.
<b>Specific gravity</b>	No data
<b>Molecular formula</b>	C <sub>14</sub> H <sub>16</sub> P <sub>2</sub>
<b>Molecular weight</b>	246.23
SECTION 10: Stability and Reactivity	
<b>Stability</b>	Air-sensitive liquid
<b>Hazardous polymerization</b>	No hazardous polymerization
<b>Conditions to avoid</b>	Contact with oxidizing agents and ignition sources, prolonged contact with air.
<b>Incompatibilities with other materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Carbon monoxide, oxides of phosphorus, carbon dioxide, organic fumes.
SECTION 11: Toxicological Information	
<b>RTECS Data</b>	No information available on title compound. For hexane -- Standard Draize Test (rabbit); 10mg (mild). Inhalation (human); TCLo: 190ppm/8W. Oral (rat); LD50: 28710mg/kg. Inhalation (rat); LC50: 48000ppm/4H. Intraperitoneal (rat); LDLo: 9100mg/kg. Intravenous (mouse); LDLo: 831mg/kg. Inhalation (rat); TCLo: 2000ppm/12H/24W-I. Acts a general anesthetic, respiratory depression, altered sleep time, effects on nerves, decreased weight gain, muscle weakness, and changes to the liver and blood. Toxic effects observed in the embryo and fetus of test animals.
<b>Carcinogenic effects</b>	No data available.
<b>Mutagenic effects</b>	Genetic effects observed in mammalian cell analysis.
<b>Tetrotogenic effects</b>	Toxic reproductive effects observed in the embryos and fetus of test animals.

<b>SECTION 12: Ecological Information</b>	
<b>Ecological information</b>	No information available.
<b>SECTION 13: Disposal Considerations</b>	
Dispose of in a manner consistent with federal, state, and local regulations.	
<b>SECTION 14: Transport Information</b>	
<b>Shipping name (CFR)</b>	Flammable Liquids, N.O.S.
<b>Hazard class (CFR)</b>	3
<b>Additional hazard class (CFR)</b>	NA
<b>Packing group (CFR)</b>	II
<b>UN ID number (CFR)</b>	1993
<b>Shipping name (IATA)</b>	Flammable Liquids, N.O.S.
<b>Hazard class (IATA)</b>	3
<b>Additional hazard class (IATA)</b>	NA
<b>Packing group (IATA)</b>	II
<b>UN ID number (IATA)</b>	1993
<b>SECTION 15: Regulatory Information</b>	
<b>TSCA</b>	Non listed in the TSCA inventory
<b>SARA</b>	Title compound is not reportable under SARA Title 313; hexane is regulated by SARA 313.
<b>SECTION 16: Other Information</b>	
<b>Preparation date</b>	21.05.12
<b>Revision date</b>	21.05.12
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