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SECTION 1: Product Identification

Product name	(S)-(-)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl, 99% (S)-BINAP
CAS #	76189-56-5
Catalog #	0156900
Chemical family	Organophosphorus ligand

SECTION 2: Composition, Information on Ingredients

Component	%	CAS #	EINECS #	Hazard Symbol	R-Phrase
(S)-(-)-2,2'-Bis(diphenylphosphino)-1,1'-binaphthyl	99	76189-56-5	none	Xi	36/37/38

SECTION 3: Hazard Identification

Emergency overview	Irritating to eyes, respiratory system and skin.
Eye contact	Cause serious irritation of the eyes
Skin contact	Cause irritation of the skin
Inhalation	Irritating to the nose, mucous membranes and respiratory tract
Ingestion	No information available
Chronic health effects	No information available

SECTION 4: First Aid Measures

Eye exposure	Immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid immediately.
Skin exposure	Wash the affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.
Inhalation	Remove from exposure to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, pain, etc. In such cases seek immediate medical assistance.
Ingestion	If victim is conscious, give 2-4 cupfuls of water. Get medical aid.

SECTION 5: Fire Fighting Measures

General information	If this material is involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing. If involved in a fire this material may emit toxic organic fumes.
Extinguishing media	Use CO ₂ , dry powder or foam

SECTION 6: Accidental Release Measures

Spill and leak procedures	Small spills can be mixed with vermiculite or sodium carbonate and swept up.
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SECTION 7: Handling and Storage	
Handling	Do not get in eyes, on skin, or on clothing.
Storage	Store in a tightly closed container. Keep away from heat and direct sunlight.
SECTION 8: Exposure Controls and Personal Protection	
Eye protection	Always wear approved safety glasses when handling a chemical substance in the laboratory.
Skin protection	Wear protective gloves.
Ventilation	Material may form a fine dust. If possible, handle the material in an efficient fume hood.
Respirator	If ventilation is not available a respirator should be worn. The use of respirators requires Respirator Protection Program to be in compliance with 29CFR 1910.134.
SECTION 9: Physical and Chemical Properties	
Appearance	White to light yellow xtl..
Odor	None
Melting point	240-243 °C
Boiling point	No data
Flash point	No data
Solubility in water	Insoluble
Specific gravity	No data
Spec Rotation	[alpha]-222 (c 1.0, C6H6)
Molecular formula	C44H32P2
Molecular weight	622.70
SECTION 10: Stability and Reactivity	
Stability	Air and moisture stable solid.
Hazardous polymerization	No hazardous polymerization
Conditions to avoid	None
Incompatibilities with other materials	Oxidizing agents.
Hazardous decomposition products	Carbon monoxide, oxides of phosphorus, carbon dioxide, organic fumes.
SECTION 11: Toxicological Information	
RTECS Data	No information available in the RTECS files.
Carcinogenic effects	No data available.
Mutagenic effects	No data available.
Tetragenic effects	No data available.
SECTION 12: Ecological Information	
Ecological information	No information available.
SECTION 13: Disposal Considerations	
Dispose of in a manner consistent with federal, state, and local regulations.	

SECTION 14: Transport Information	
Shipping name (CFR)	Non-hazardous
Hazard class (CFR)	NA
Additional hazard class (CFR)	NA
Packing group (CFR)	NA
UN ID number (CFR)	NA
Shipping name (IATA)	Non-hazardous
Hazard class (IATA)	NA
Additional hazard class (IATA)	NA
Packing group (IATA)	NA
UN ID number (IATA)	NA
SECTION 15: Regulatory Information	
TSCA	Non listed in the TSCA inventory
SARA	Not reportable under SARA Title 313
SECTION 16: Other Information	
Preparation date	05.12.03
Revision date	10.02.12
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