MATERIAL SAFETY DATA SHEET
PHOSPHORUS TRICHLORIDE

1. Chemical Product and Company Identification

Product Name : Phosphorus Trichloride
Manufacturer : Sandhya Dyes & Chemicals
Address : Sandhya Dyes & Chemicals
312, Nand Prem, 142, Nehru Road, Vile Parle (E)
Mumbai- 400057
INDIA
Tel no. 91-22-26104202/26151500/26136732
Fax no. 91-22-26104201
Regd. Office
Plot No. 1703, G I D C, Sarigam-396155,
District Valsad, Gujarat
Tel No. 91-260-2781049/2780149/2781013
www.sandhya-group.com
socpl@vsnl.com

Emergency Contact No. : 91-22-26104202/26151500/26136732

2. Composition, Information on Ingredients

INGREDIENT	PEL-OSHA	TLV-ACGIH	LD50 or LC50 Route/Species
Phosphorus Trichloride FORMULA: PCl_3 CAS: 7719-12-2 RTECS #: TH3675000	0.5 ppm TWA	0.2ppm TWA 0.5ppm STEL	LC50 104 ppm/4HR (rat)

3. Hazards Identification

EMERGENCY OVERVIEW

Corrosive and irritating to the eyes, skin, and mucous membranes. Inhalation may result in chemical pneumonitis and pulmonary edema.

ROUTE OF ENTRY

Skin Contact	Skin Absorption	Eye Contact	Inhalation	Ingestion
Yes	No	Yes	Yes	Yes

HEALTH EFFECTS

Exposure Limits	Irritant	Sensitization
Yes	Yes	No
Teratogen	**Reproductive Hazard**	**Mutagen**
No	No	No

Synergistic Effects : None Reported
Carcinogenicity : No

EYE EFFECTS:
Corrosive and irritating to the eyes. Contact with the liquid or vapor causes painful burns and ulcerations. Burns to the eyes result in lesions and possible loss of vision.

SKIN EFFECTS:
Corrosive and irritating to the skin and all living tissue. Toxic level exposure to dermal tissue causes acid-like burns and skin lesions resulting in early necrosis and scarring. It hydrolyzes very rapidly with the liberation of heat yielding hydrochloric and phosphoric acid. Acid burns exhibit severe pain, redness, possible swelling and early necrosis.

INGESTION EFFECTS:
None specified.

INHALATION EFFECTS:
Corrosive and irritating to the upper and lower respiratory tract and all mucosal tissue. Symptoms include lacrimation, cough, labored breathing, and excessive salivary and sputum formation. Excessive irritation causes chemical pneumonitis and pulmonary edema which could be fatal.

NFPA HAZARD CODES		HMIS HAZARD CODES		RATINGS SYSTEM	
Health:	4	Health:	3	0	No Hazard
Flammability:	0	Flammability:	0	1	Slight Hazard
Reactivity:	2	Reactivity:	2	2	Moderate Hazard
WATER REACTIVE				3	Serious Hazard
				4	Severe Hazard

4. First Aid Measures

EYES:
PERSONS WITH POTENTIAL EXPOSURE SHOULD NOT WEAR CONTACT LENSES. Flush contaminated eyes with copious quantities of water. Part eyelids to assure complete flushing. Continue for a minimum of 15 minutes. Seek immediate medical attention.

SKIN:
Remove contaminated clothing as rapidly as possible. Flush affected area with copious quantities of water. Seek immediate medical attention.

INGESTION:
Not specified. Seek immediate medical attention.

INHALATION:
PROMPT MEDICAL ATTENTION IS MANDATORY IN ALL CASES OF OVEREXPOSURE. RESCUE PERSONNEL SHOULD BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS.
Victims should be assisted to an uncontaminated area and inhale fresh air. Quick removal from the contaminated area is most important. Unconscious persons should be moved to an uncontaminated area, and if breathing has stopped, administer artificial resuscitation and supplemental oxygen. Keep victim warm and quiet. Assure that mucus or vomited material does not obstruct the airway by use of positional drainage. Delayed pulmonary edema may occur. Keep patient under medical observation for at least 24 hours.

5. Fire Fighting Measures

Conditions of Flammability	: Nonflammable
Flash point	: None
Method	: None
Autoignition Temperature	: None
LEL(%)	: None
UEL(%)	: None
Hazardous combustion products	: None
Sensitivity to mechanical shock	: None

Sensitivity to static discharge: None

FIRE AND EXPLOSION HAZARDS : Reacts with water yielding HCl and Phosphoric acids.

EXTINGUISHING MEDIA : Nonflammable

FIRE FIGHTING INSTRUCTIONS : None.

6. Accidental Release Measures

Evacuate all personnel from affected area. Use appropriate protective equipment. If leak is in user's equipment, be certain to purge piping with inert gas prior to attempting repairs. If leak is in container or container valve, contact the appropriate emergency telephone number listed in Section 1

7. Handling and Storage

Electrical classification : Non-hazardous.
Use only in well-ventilated areas. Containers must remain closed unless they are being used. Do not drag, slide or roll cylinders. Use a suitable hand truck for container movement recognizing that the metal containers can easily be punctured and the glass containers or carboys are easily broken. Protect cylinders from physical damage. Store in cool, dry, well-ventilated areas of non-combustible construction away from heavily trafficked areas and emergency exits. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over. Full & empty cylinders should be segregated. Use a "first in-first out" inventory system to prevent full containers from being stored for excessive periods of time.

Never carry a compressed gas cylinder or a container of a gas in cryogenic liquid form in an enclosed space such as a car trunk, van or station wagon. A leak can result in a fire, explosion, asphyxiation or a toxic exposure.

8. Exposure Controls, Personal Protection

EXPOSURE LIMITS:

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ENGINEERING CONTROLS:
Hood with forced ventilation. Use local exhaust ventilation to prevent accumulation above the exposure limit.

EYE/FACE PROTECTION:
Safety goggles or glasses.

SKIN PROTECTION:
Neoprene or butyl rubber, PVC, or polyethylene gloves.

RESPIRATORY PROTECTION:
Positive pressure air line with full-face mask and escape bottle or self-contained breathing apparatus should be available for emergency use.

OTHER/ GENERAL PROTECTION:
Safety shoes, safety shower, eyewash "fountain", face shield.

9. Physical and Chemical Properties

PARAMETER	**VALUE**	**UNITS**
Physical state (gas, liquid, solid)	: Liquid	
Vapor pressure at STP	: 1.9	psia
Vapor density (Air = 1)	: Not Available	
Evaporation point : Not Available		
Boiling point	: 168	F
	: 75.5	C
Freezing point :	: -170	F
	: -112	C
pH	: Not Available	

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PARAMETER	VALUE	UNITS
Specific gravity (H2O = 1)	: 1.574	
Oil/water partition coefficient	: Not Available	
Solubility (H20)	: Reacts violently	
Odor threshold	: Not Available	
Odor and appearance	: Pungent odor; Colorless, fuming liquid.	

10. Stability and Reactivity

STABILITY	**:**	Stable.
INCOMPATIBLE MATERIALS	**:**	Water and water vapor. In water, reacts violently.
HAZARDOUS DECOMPOSITION PRODUCTS	**:**	Hydrochloric and phosphoric acid upon hydrolysis.
HAZARDOUS POLYMERIZATION	**:**	Will not occur.

11. Toxicological Information

LC_{50} (Rat) - Inhalation of 104 ppm/4H.

12. Ecological Information

No data given.

13. Disposal Considerations

Do not attempt to dispose of residual waste or unused quantities.

14. Transport Information

PROPER SHIPPING NAME	**:** Phosphorus Trichloride
HAZARD CLASS	**:** 6.1
SUBSIDARY RISK	: 8
IDENTIFICATION NUMBER	**:** UN 1809
SHIPPING LABEL	**:** TOXIC
Packing Group	**:** I

15. Regulatory Information

Symbol

16. Other Information

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