

# MATERIAL SAFETY DATA SHEET

24 HR. EMERGENCY PHONE # CHEM-TREC 1-800-424-9300

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## SECTION 1 Product Identification

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**CHEMICAL NAME:** Phosphorus (V) chloride  
**CAS #:** 10026-13-8  
**FORMULA:**  $PCl_5$   
**SYNONYM:** Phosphorus perchloride, Phosphorus pentachloride

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## SECTION 2 Composition and Information on Ingredients

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| INGREDIENT:    | CAS #      | %   | ACGIH (TWA) | OSHA (PEL)         |
|----------------|------------|-----|-------------|--------------------|
| Title Compound | 10026-13-8 | 100 | 0.1ppm      | 1mg/m <sup>3</sup> |

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## SECTION 3 Hazards Identification

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**EMERGENCY OVERVIEW:** Harmful if swallowed. Very toxic by inhalation. Inhalation of vapors may lead to headache and dizziness and irritation of the nose and mucous membranes. Material is corrosive to skin and eyes.

**PRIMARY ROUTES OF EXPOSURE:** Ingestion, skin, inhalation

**EYE CONTACT:** Causes burns to the eyes.

**SKIN CONTACT:** Causes caustic burns to the skin.

**INHALATION:** Very toxic by inhalation. Inhalation may lead to headaches and dizziness. Corrosive to nose and mucous membranes.

**INGESTION:** Harmful if swallowed. May cause vomiting and diarrhea.

**CHRONIC HEALTH EFFECTS:** No information available on long-term chronic effects.

**ACUTE HEALTH EFFECTS:** Harmful if swallowed. Very toxic by inhalation. Danger of serious damage to health by prolonged exposure through inhalation. Corrosive to skin, eyes and respiratory tract.

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## SECTION 4 First Aid Measures

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**EYE EXPOSURE:** Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.

**SKIN EXPOSURE:** Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.

**INHALATION:** Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.

**INGESTION:** Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

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## **SECTION 5                      Firefighting Measures**

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**FLASH POINT:** not applicable

**AUTO IGNITION TEMPERATURE:** no data

**EXPLOSION LIMITS:** no data

**EXTINGUISHING MEDIUM:** carbon dioxide, dry powder or foam

**SPECIAL FIREFIGHTING PROCEDURES:** If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** If involved in a fire this material may emit toxic organic fumes and vapors of phosphorus pentoxide.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** No unusual fire or explosion hazards.

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## **SECTION 6                      Accidental Release Measures**

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**SPILL AND LEAK PROCEDURES:** Small spills can be mixed with vermiculite or other suitable absorbents . Spillage in areas not adequately ventilation will require an evacuation of site. Emergency response teams will require self-contained breathing apparatus. Material can release toxic hydrogen chloride fumes. Spill should be absorbed into vermiculite or other absorbent.

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## **SECTION 7                      Handling and Storage**

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**HANDLING AND STORAGE:** Material must be handled and stored under an inert atmosphere of nitrogen or argon.

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## **SECTION 8                      Exposure Controls and Personal Protection**

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**EYE PROTECTION:** Always wear approved safety glasses w/side shields, or safety goggles, face shield when handling a chemicals substance in the laboratory.

**SKIN PROTECTION:** Chemical-resistant.

**VENTILATION:** If possible, handle the material in an efficient fume hood.

**RESPIRATOR:** If in form of fine dust and ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 19-10.134.

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## **SECTION 9                      Physical and Chemical Properties**

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**COLOR AND FORM:** white to pale yellow

**MOLECULAR WEIGHT:** 208.24

**MELTING POINT (DEG. C.):** no data

**BOILING POINT:** no data

**VAPOR PRESSURE:** 1 mm (55°C)

**SPECIFIC GRAVITY:** no data

**SOLUBILITY IN WATER:** reacts with water

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## **SECTION 10      Stability and Reactivity**

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**STABILITY:** moisture sensitive solid

**HAZARDOUS POLYMERIZATION:** no hazardous polymerization

**CONDITIONS TO AVOID:** contact with moisture

**INCOMPATIBILITY:** water and active metals

**DECOMPOSITION PRODUCTS:** hydrogen chloride and phosphorus oxide

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## **SECTION 11      Toxicological Information**

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**RTECS DATA:** Oral (rat); LD50: 660 mg/kg. Inhalation (rat); LD50: 205 mg/m3.

**MUTAGENIC EFFECTS:** no data

**TETRATOGENIC EFFECTS:** no data

**CARCINOGENIC EFFECTS:** no data

To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

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## **SECTION 12      Ecological Information**

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**ECOLOGICAL INFORMATION:** No information available

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## **SECTION 13      Disposal Considerations**

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**DISPOSAL:** Dispose of in according to local state and federal regulations.

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## **SECTION 14      Transportation Information**

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Phosphorus pentachloride, Class 8, UN1806, PG II

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## **SECTION 15      Regulatory Information**

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**TSCA:** Listed in the TSCA inventory

**SARA (TITLE 313):** Title compound not listed

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## **SECTION 16      Other Information**

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