

# MATERIAL SAFETY DATA SHEET

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

Manufacturer: ProChem, Inc.  
826 Roosevelt Road  
Rockford, IL 61109

Phone: (815) 398-1788  
Fax: (815) 398-1810  
E-Mail: Prochem1@aol.com

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## SECTION 1 Product Identification

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**CHEMICAL NAME:** Phosphorous (III) bromide  
**CAS #:** 7789-60-6  
**FORMULA:** PBr<sub>3</sub>  
**SYNONYM:** Phosphorous bromide, Tribromophosphine

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## SECTION 2 Composition and Information on Ingredients

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INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	7789-60-8	100	no data	no data

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## SECTION 3 Hazards Identification

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**EMERGENCY OVERVIEW:** Pungent odor. Inhalation of vapor may cause a burning sensation, coughing, headache, and pulmonary edema. Very corrosive to eyes, skin and mucous membranes.

**PRIMARY ROUTES OF EXPOSURE:** Contact With skin and eyes. Inhalation of vapor.

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

**SKIN CONTACT:** Corrosive. Prolonged contact can lead to chemical burns.

**INHALATION:** Inhalation of vapor causes burning sensation, spasms, coughing, headache, chemical pneumonitis and pulmonary edema.

**INGESTION:** Corrosive to mouth throat and stomach. May cause dizziness, nausea, vomiting, pain and stomach upset.

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

**ACUTE HEALTH EFFECTS:** Inhalation of vapor may cause chemical pneumonitis and pulmonary edema. Contact of liquid or vapor with skin and eyes causes burns.

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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:** none

**EXPLOSION LIMITS:** none

**EXTINGUISHING MEDIUM:** None required. Material is non flammable

**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:** Non-flammable liquid. 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. Adequate ventilation will require an evacuation of site. Emergency response teams will require self-contained breathing apparatus. Spill should be covered with sodium carbonate or other acid neutralizing medium.

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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. Material fumes strongly in moist air releasing corrosive and toxic fumes of hydrogen bromide. Check bottle caps monthly.

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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 chemical 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:** Colorless to pale yellow liq.

**MOLECULAR WEIGHT:** 270.7

**MELTING POINT (DEG. C.):** none

**BOILING POINT:** 172.9°

**VAPOR PRESSURE:** 10mm (47.5°C)

**SPECIFIC GRAVITY:** 2.852 (15°C)

**SOLUBILITY IN WATER:** reacts violently with water

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## **SECTION 10      Stability and Reactivity**

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**STABILITY:** moisture sensitive, air sensitive, liquid

**HAZARDOUS POLYMERIZATION:** no hazardous polymerization

**CONDITIONS TO AVOID:** contact with moisture, contact with air.

**INCOMPATIBILITY:** air, water, oxidizing agents and active metals

**DECOMPOSITION PRODUCTS:** Hydrogen bromide, and phosphorus pentoxide in the presence of oxygen and moisture.

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## **SECTION 11      Toxicological Information**

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**RTECS DATA:** Oral (rat); LDLo: 50 mg/kg.

**MUTAGENIC EFFECTS:** no data

**TETRAOGENIC 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 tribromide, Class 8, UN 1808, 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 : See category N495 for reporting.

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## **SECTION 16      Other Information**

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