

MATERIAL SAFETY DATA SHEET

PHOSPHOROUS TRI BROMIDE

Section 1 – Chemical Product and Company Identification

Product : Phosphorous tri Bromide

Synonyms : Phosphorous (III) Bromide, Tri Bromo Phosphine.

Company Identification :

Alkali Metals Ltd., B-5, I.D.A.,

Uppal, Hyderabad, India – 500 039

Tel :- 0091 40 2756 3002 / 2720 1179

Fax:- 0091 40 2756 2634 / 27201454

Email :- alkalimetals@alkalimetals.com

Section 2 – Composition, Information on Ingredients

CAS#	Chemical Name	%
7789-60-8	Phosphorous tri Bromide	>90

Appearance : Clear to slight turbid fuming liquid with penetrating odor.

Section 3 – Hazards Identification – Emergency Overview

Potential Health Effects : Over exposure to vapors may be irritating to eyes, nose and throat. Inhalation of vapors may cause pulmonary edema. Contact with skin or eyes may cause severe irritation or burns. Chronic effects of over exposure may include kidney and / or liver damage.

Section 4 – First aid Measures

Eyes : Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin : Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid.

Ingestion : If swallowed do not induce vomiting. If conscious, give large amounts of water **get** medical Aid.

Inhalation : Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician : Treat symptomatically and supportively.

Section 5 – Fire Fighting Measures

General Information : As in any fire, wear a self-contained breathing apparatus in pressure-demand. Use personnel protective equipment as required.

Nature : Corrosive Liquid.

Extinguishing Media : In case of fire, dry chemical powder or carbondioxide ,do not use water.

Section 6 – Accidental Release Measures

General Information : Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks : Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 – Handling and Storage

Handling : Use all personnel protective equipment. Use with adequate ventilation. Keep container tightly closed. Avoid ingestion and inhalation. Avoid contact with eyes and skin.

Storage : Store in a tightly closed container. Keep away from heat, sparks and flammable. Keep in corrosion proof area.

Section 8 – Exposure Controls, Personal Protection

- Engineering Controls** : Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.
- Personel Protective Equipment:**
- Eyes** : Wear safety glasses and chemical goggles if splashing is possible.
- Skin** : Wear appropriate protective gloves and clothing to prevent skin exposure.
- Clothing** : Wear appropriate protective clothing to minimize contact with skin.
- Respirators** : Wear a NIOSH/MSHA or European Standard EN 149 approved full-face shield airline respirator in the positive pressure mode with emergency escape provisions.

Section 9 – Physical and Chemical Properties

Physical State	liquid
Appearance	Clear to slight turbid fuming liquid
Odor	Toxic and characteristic
PH	Not available.
Vapor Pressure	~5 MM Hg.
Viscosity	Not available.
Boiling Point	173 deg C
Freezing/Melting Point	6.5 deg C
Autoignition Temperature	Not available.
Flash Point	Not available
Explosion Limits, lower	Not available.
Explosion Limits, upper	Not available.
Decomposition Temperature	Not available
Solubility	--
Specific Gravity	2.85
Molecular Formula	PBr ₃
Molecular Weight	270.69

Section 10 – Stability and Reactivity

- Chemical Stability** : Stable under normal temperatures and pressures.
- Hazardous Polymerization** : Has not been reported.
- Conditions to Avoid** : Moisture, heat, flame etc.
- Incompatible materials** : strong oxidizing agents, Alkali metals, mineral acids, organic acids, alcohols, cumbesble materials, nitric acid.
- Incompatibilities with Other Materials** : Oxidizing agents, strong reducing agents, strong acids, strong bases.
- Hazardous Decomposition Products** : Hydrogen bromide, oxides of phosphorous, irritating and toxic fumes and gases.

Section 11 – Toxicological Information

- RTECS#** : CAS# 07789-60-9
Other data not available. See actual entry in RTECS for complete information.

Section 12 – Ecological Information

- Ecotoxicity** : Not available.
- Environmental fate** : Not available.
- Physical/Chemical** : Not available.
- Other** : Not available.

Section 13 – Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14 – Transport Information

	IATA	IMO	RID/ADR/DOT
Shipping Name:			
UN Number:	1808	1808	1808
Class:	8	8	8
Packing Group:	II	II	II
Hazard	CORROSIVE LIQUID	CORROSIVE LIQUID	CORROSIVE LIQUID

Section 15 – Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T F

Risk Phrases:

R 21 Harmful in contact with skin.

R 25 Toxic if swallowed.

Safety Phrases:

S 16 Keep away from sources of ignition – No smoking.

27 Take off immediately all contaminated clothing.

45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS No. 07789-60-8

Section 16 – Additional Information

MSDS Creation Date: 01/03/2001

Revision #0 Date: Original.

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall the company be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if the company has been advised of the possibility of such damages

Material Safety Data Sheet

Section I - Chemical Product and Company Identification

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Synonyms : Phosphorous(III) Bromide

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B-5 , I.D.A., Uppal
Hyderabad, India – 500 039
Tel :- 0091 40 756 3002 / 720 1179
Fax :- 0091 40 756 2634 / 7201454
Email :- alkali@hd1.vsnl.net.in

Section II – Composition, Information on Ingredients

CAS#	Chemical Name	%	EINECS#
7789-60-8	Phosphorous Tri Bromide	98%	203-701-1

Formula – PBr_3 Formula Weight : 270.69 CAS No. 7789-60-8

Precautionary labeling

Safety Data(TM) System, Health – 3(Poison), Reactivity –2, Contact –3 (Corrosive) Laboratory Protective. Equipment Goggles. Lab Causes severe burns vapor extremely irritating reacts violently with water and may cause flash fire may be fatal if swallowed do not get in eyes, on skin, on clothing, avoid breathing dust, keep in tightly closed container, use with adequate ventilation wash thoroughly after handling.

Section III – Physical Data

Boiling Point : 173 C(343F) Vapor Pressure (MM HG); ~5 , Melting Point : 42°C, (.44F) Vapor Density (Air): N/A Specific Gravity : 2.85 Evaporation Rate : N/A (H₂O) (ButylAcetate=1), Solubility (H₂O), Decomposes % Volatiles by volume : 100, Appearance & Odor, Colourless, Fuming Liquid with penetrating odor

Section IV – Fire and Explosion Hazard Data

Flash Point : N/A fire extinguishing media use dry chemical or carbon dioxide do not use water, Special fire-fighting procedures fire fighters should wear proper protective equipment and self contained breathing apparatus with full face piece operated in positive pressure mode toxic gases produced phosphorous oxide, Hydrogen bromide.

Section V – Health Hazard Data

Effects of overexposure vapors may be irritating to eyes, nose and throat, inhalation of vapors may cause pulmonary edema. Contact with skin or eyes may cause severe irritation or burns. Chronic effects of over exposure may include kidney and or liver damage emergency and first aid procedures call physician if swallowed, do not induce vomiting. If Conscious, give large amounts of water. In case of contact, immediately flush eyes or skin with plenty water for atleast 15 minutes.

Section VI – Reactivity Data

Stability : Stable hazardous polymerization will not occur conditions to avoid : Moisture heat flame in-compatibles. Water, strong oxidizing agents, Alkali Metals mineral acids, organic acids, alcohols, combustible materials, nitric acid decomposition products, hydrogen bromide, oxides of phosphorous.

Section VII-Spill and Disposal Procedure

Steps to be taken in the event of a spill or discharge wear self-contained breathing apparatus and full protective clothing, Stop leak if you can do so without risk, ventilate area, neutralize spill with soda ash or lime, with clean shovel, carefully place material into clean, dry container and cover, remove from area, flush spill area with water do not put any water on leak or spills disposal procedure is pose in accordance with applicable federal, state and local environment, regulations epa hazardous waste number, D002, D003, (corrosive, reactive waste)

Section VIII – Protective Equipment

Ventilation : Use adequate general or local exhaust ventilation to keep vapor and mist levels as low as possible, respiratory protection. Non required where adequate ventilation conditions exist. If airborne concentration is high, a chemical cartridge respirator with acid cartridge respirator, a self-contained breathing apparatus is advised. Eye / skin protection : Safety goggles uniform, apron, rubber gloves are recommended.

Section IX- Storage and Handling Precautions

SAF-T-DAT(TM) storage color code – white special precautions keep container tightly closed store in corrosion proof area.

Section X – Transportation Data and Additional information

Domestic (DOT) proper shipping name phosphorous tri bromide hazard class corrosive material (liquid) UN/NA UN 1808, labels corrosive.

International (IMO) Proper shipping name phosphorous tri bromide hazard class 8 UN/NA UN 1808 labels corrosive

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