

Material Safety Data Sheet

Phosphorus tribromide

ACC# 56414

Section 1 - Chemical Product and Company Identification

MSDS Name: Phosphorus tribromide

Catalog Numbers: AC169470050, AC169475000

Synonyms: Tribromophosphine.

Company Identification:

Acros Organics N.V.

One Reagent Lane

Fair Lawn, NJ 07410

For information in North America, call: 800-ACROS-01

For emergencies in the US, call CHEMTREC: 800-424-9300

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7789-60-8	Phosphorus tribromide	99	232-178-2

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: yellow to light brown liquid.

Danger! May be fatal if swallowed. Causes severe eye and skin burns. Water-reactive. Causes digestive and respiratory tract burns.

Target Organs: Eyes, skin, mucous membranes.

Potential Health Effects

Eye: Causes severe eye burns.

Skin: Causes skin burns. Contact with the skin may cause skin lesions which are characterized by cracking of the skin and the development of slow-healing ulcers.

Ingestion: May be fatal if swallowed. Causes digestive tract burns with immediate pain, swelling of the throat, convulsions, and possible coma.

Inhalation: Causes chemical burns to the respiratory tract. Inhalation of high vapor concentrations may cause ulceration of nasal mucous and possibly bronchospasm.

Chronic: Chronic exposure may cause effects similar to those of acute exposure.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Discard contaminated clothing in a manner which limits further exposure. Destroy contaminated shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

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, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with water can cause violent liberation of heat and splattering of the material. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance will react with water (some violently) releasing flammable, toxic, or corrosive gases and runoff.

Extinguishing Media: Do NOT use water directly on fire. Do NOT get water inside containers. Cool containers with flooding quantities of water until well after fire is out. For large fires flood fire with water from a distance. For small fires, use dry chemical or carbon dioxide.

Flash Point: Not available.

Autoignition Temperature: Not applicable.

Explosion Limits, Lower: Not available.

Upper: Not available.

NFPA Rating: (estimated) Health: 3; Flammability: 0; Instability: 2; Special Hazard: -W-

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. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. Do not get water inside containers. Do not use combustible materials such as paper towels to clean up spill. Use water spray to reduce vapors, do not put water directly on leak, spill area or inside container.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Use with adequate ventilation. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Do not ingest or inhale. Do not allow contact with water. Discard contaminated shoes.

Storage: Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from water. Corrosives area. Do not store in metal containers.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Phosphorus tribromide	none listed	none listed	none listed

OSHA Vacated PELs: Phosphorus tribromide: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear chemical splash goggles and face shield.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: yellow to light brown

Odor: Irritating odor.

pH: Not available.

Vapor Pressure: 48 mm Hg @ 20 deg C

Vapor Density: 9.3

Evaporation Rate: Not available.

Viscosity: Not available.

Boiling Point: 175 deg C

Freezing/Melting Point: -41 deg C

Decomposition Temperature: Not available.

Solubility: Reacts with water.

Specific Gravity/Density: 2.8

Molecular Formula: PBr₃

Molecular Weight: 270.69

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Contact with water, metals, excess heat.

Incompatibilities with Other Materials: Metals, oxidizing agents, strong acids, bases, sodium carbonate, sulfuric acid, sodium potassium, chlorosulfonic acid, oleum, ruthenium tetroxide, calcium hydroxide, phenylpropanol, fluorosulfuric acid, 1,1,1-tris(hydroxymethyl) methane.

Hazardous Decomposition Products: Oxides of phosphorus, irritating and toxic fumes and gases, hydrogen bromide.

Hazardous Polymerization: Has not been reported

Section 11 - Toxicological Information

RTECS#:

CAS# 7789-60-8: TH4460000

LD50/LC50:

Not available.

Oral, rat: LD50 < 50 mg/kg (Eastman Kodak).

Carcinogenicity:

CAS# 7789-60-8: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	PHOSPHORUS TRIBROMIDE	PHOSPHORUS TRIBROMIDE
Hazard Class:	8	8
UN Number:	UN1808	UN1808
Packing Group:	II	II

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 7789-60-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 7789-60-8: immediate, delayed, reactive.

Section 313

No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 7789-60-8 can be found on the following state right to know lists: New Jersey.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

C

Risk Phrases:

R 14 Reacts violently with water.

R 34 Causes burns.

R 37 Irritating to respiratory system.

Safety Phrases:

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

WGK (Water Danger/Protection)

CAS# 7789-60-8: 1

Canada - DSL/NDL

CAS# 7789-60-8 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of D1A, E, F.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 7789-60-8 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information
--

MSDS Creation Date: 8/14/1998

Revision #4 Date: 12/20/2005

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 event shall Fisher 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 Fisher has been advised of the possibility of such damages.