

Material Safety Data Sheet

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Version 1.2
According to 91/155/EEC

Classified as Hazardous according to the criteria of EU Annex 1 and NOHSC.

1 - Product and Company Information

Product Name	TETRABUTYLPHOSPHONIUM BROMIDE, 98%
Product Number	189138
Company	Sigma-Aldrich Pty, Ltd Unit 2, 14 Anella Avenue Castle Hill NSW 1765 Australia
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2 - Composition/Information on Ingredients

Product Name	CAS #	EC no	Annex I Index Number
TETRABUTYLPHOSPHONIUM BROMIDE	3115-68-2	221-487-8	None
Formula	C ₁₆ H ₃₆ BrP		
Molecular Weight	339.35 AMU		
Synonyms	PX 4B * Tetra-N-butylphosphonium bromide		

3 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
Harmful in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin.

4 - First Aid Measures

AFTER INHALATION

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

AFTER SKIN CONTACT

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

7 - Handling and Storage

HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

SPECIAL REQUIREMENTS: Hygroscopic.

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator.

Hand Protection: Compatible chemical-resistant gloves.

Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

Appearance	Color: White Form: Fine crystals	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	102 °C	

Flash Point	290 °C	Method: closed cup
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	N/A	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Hydrogen bromide gas, Thermal decomposition may produce toxic fumes of phosphorus oxides and/or phosphine.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: TA2417000

ACUTE TOXICITY

LD50

Skin

Rabbit

*

LD50

Oral

Rat

420 mg/kg

Remarks: Gastrointestinal: Hypermotility, diarrhea. Lungs, Thorax, or Respiration: Other changes. Liver: Other changes.

LC50

Inhalation

Rat

> 3 mg/m³

1H

LD50

Intravenous

Mouse

56 MG/KG

LD50
Skin
Rabbit
197 mg/kg

Remarks: Behavioral: Somnolence (general depressed activity).
Behavioral: Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration: Dyspnea.

IRRITATION DATA

Skin
Rabbit
500 mg
Remarks: Severe irritation effect

Eyes
Rabbit
0.1 ml
24H
Remarks: Severe irritation effect

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.
Skin Absorption: Harmful if absorbed through skin.
Eye Contact: Causes eye irritation.
Inhalation: May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

12 - Ecological Information

N/A

ELIMINATION

Elimination: 10 - 30 %

ECOTOXICOLOGICAL EFFECTS

Test Type: LC50 Fish
Species: Leuciscus idus
Time: 48 h
Value: 100 - 1,000 mg/l

Test Type: LC50 Bacteria
Time: 3 h
Value: > 1,000 mg/l

13 - Disposal Considerations

SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR

UN#: 3464

Class: 6.1

PG: III

Proper Shipping Name: Organophosphorus compound,
toxic, solid, n.o.s.

IMDG

UN#: 3464

Class: 6.1

PG: III

Proper Shipping Name: Organophosphorus compound,
toxic, solid, n.o.s.

Marine Pollutant: No

Severe Marine Pollutant: No

Technical Name: Required

IATA

UN#: 3464

Class: 6.1

PG: III

Proper Shipping Name: Organophosphorus compound,
toxic, solid, n.o.s.

Inhalation Packing Group I: No

Technical Name: Required

15 - Regulatory Information**CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES**

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 36/37/38 21/22

Irritating to eyes, respiratory system and skin. Harmful in contact with skin and if swallowed.

S-PHRASES: 26 37/39

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable gloves and eye/face protection.

16 - Other Information**WARRANTY**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2005 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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