

## SAFETY DATA SHEET

Version 6.0  
Revision Date 03/14/2018  
Print Date 11/12/2018

### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name : TBPP

Product Number : 34188

Brand : Sigma-Aldrich

CAS-No. : 126-72-7

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Synthesis of substances

#### 1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.  
3050 Spruce Street  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

#### 1.4 Emergency telephone number

Emergency Phone # : (314) 776-6555

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Carcinogenicity (Category 1B), H350

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)  
H302 : Harmful if swallowed.

H315	Causes skin irritation.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.
Precautionary statement(s)	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves.
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P321	Specific treatment (see supplemental first aid instructions on this label).
P330	Rinse mouth.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms : Tris(2,3-dibromopropyl) phosphate  
TDBPP

Formula :  $C_9H_{15}Br_6O_4P$   
Molecular weight : 697.61 g/mol  
CAS-No. : 126-72-7  
EC-No. : 204-799-9

#### Hazardous components

Component	Classification	Concentration
<b>Tris(2,3-dibromopropyl) phosphate</b>		
	Acute Tox. 4; Skin Irrit. 2; Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1; H302, H315, H350, H410	<= 100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

---

**5. FIREFIGHTING MEASURES****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides, Oxides of phosphorus, Hydrogen bromide gas

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

---

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

---

**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Storage class (TRGS 510): 6.1D: Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1 Control parameters****Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**8.2 Exposure controls****Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

## Personal protective equipment

### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: liquid
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	2.240 g/cm <sup>3</sup>
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	log Pow: 4.29
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

## 9.2 Other safety information

No data available

---

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Oxides of phosphorus, Hydrogen bromide gas

In the event of fire: see section 5

---

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 810 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Liver:Other changes.

Inhalation: No data available

LD50 Dermal - Rabbit - > 8,000 mg/kg

No data available

#### Skin corrosion/irritation

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Mild eye irritation

#### Respiratory or skin sensitisation

No data available

#### Germ cell mutagenicity

Mouse

Body fluid assay

Mouse

lymphocyte

Cytogenetic analysis

Mouse

lymphocyte

Mutation in mammalian somatic cells.

Mouse

lymphocyte

Morphological transformation.

Mouse

Lungs

Sister chromatid exchange

Mouse

lymphocyte

Sister chromatid exchange

Hamster

Lungs  
Cytogenetic analysis  
Hamster  
Lungs  
Mutation in microorganisms  
Hamster  
Lungs  
Mutation in mammalian somatic cells.  
Hamster  
Embryo  
Morphological transformation.  
Hamster  
Lungs  
Sister chromatid exchange  
Mouse  
lymphocyte  
Mutation in microorganisms  
Rat  
Liver  
DNA damage  
Rat  
Body fluid assay  
Rat  
Liver  
Unscheduled DNA synthesis  
Human  
Other cell types  
DNA damage  
Rat  
Embryo  
Morphological transformation.

Mouse  
Mutation in mammalian somatic cells.

Mouse  
sperm

Mouse  
Cytogenetic analysis

Mouse  
Sister chromatid exchange

Hamster  
Micronucleus test

Chicken  
Sister chromatid exchange

Rat  
DNA damage

Mouse  
Micronucleus test

Rat  
Micronucleus test

**Carcinogenicity**  
Possible human carcinogen

IARC: 2A - Group 2A: Probably carcinogenic to humans (Tris(2,3-dibromopropyl) phosphate)

IARC: 2A - Group 2A: Probably carcinogenic to humans (Tris(2,3-dibromopropyl) phosphate)

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: RAHC - Reasonably anticipated to be a human carcinogen (Tris(2,3-dibromopropyl) phosphate)

NTP: RAHC - Reasonably anticipated to be a human carcinogen (Tris(2,3-dibromopropyl) phosphate)

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### **Reproductive toxicity**

No data available

No data available

#### **Specific target organ toxicity - single exposure**

No data available

#### **Specific target organ toxicity - repeated exposure**

No data available

#### **Aspiration hazard**

No data available

#### **Additional Information**

RTECS: UB0350000

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

---

## **12. ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 0.24 mg/l - 96.0 h(Tris(2,3-dibromopropyl) phosphate)

Toxicity to algae Growth inhibition EC50 - Scenedesmus abundans - 3.1 mg/l - 96 h(Tris(2,3-dibromopropyl) phosphate)

### **12.2 Persistence and degradability**

### **12.3 Bioaccumulative potential**

Bioaccumulation Pimephales promelas (fathead minnow) - 32 d  
- 47.7 µg/l(Tris(2,3-dibromopropyl) phosphate)

Bioconcentration factor (BCF): 2.7

### **12.4 Mobility in soil**

No data available(Tris(2,3-dibromopropyl) phosphate)

### **12.5 Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### **12.6 Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Very toxic to aquatic life.

---

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. 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.

#### Contaminated packaging

Dispose of as unused product.

---

## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 3082      Class: 9      Packing group: III  
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Tris(2,3-dibromopropyl) phosphate)  
Reportable Quantity (RQ) :      10 lbs

no

Poison Inhalation Hazard: No

### IMDG

UN number: 3082      Class: 9      Packing group: III      EMS-No: F-A, S-F  
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris(2,3-dibromopropyl) phosphate)  
Marine pollutant : yes

### IATA

UN number: 3082      Class: 9      Packing group: III  
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Tris(2,3-dibromopropyl) phosphate)

### Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

---

## 15. REGULATORY INFORMATION

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Tris(2,3-dibromopropyl) phosphate	126-72-7	1993-04-24

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

	CAS-No.	Revision Date
Tris(2,3-dibromopropyl) phosphate	126-72-7	1993-04-24

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Tris(2,3-dibromopropyl) phosphate	126-72-7	1993-04-24

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Tris(2,3-dibromopropyl) phosphate	126-72-7	1993-04-24

### California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the		



State of California to cause cancer.  
Tris(2,3-dibromopropyl) phosphate

126-72-7

2007-09-28

WARNING! This product contains a chemical known to the  
State of California to cause cancer.  
Tris(2,3-dibromopropyl) phosphate

CAS-No.  
126-72-7

Revision Date  
2007-09-28

---

## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H350	May cause cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

### HMIS Rating

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical Hazard	0

### NFPA Rating

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

### Further information

Copyright 2016 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. 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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

### Preparation Information

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

Version: 6.0

Revision Date: 03/14/2018

Print Date: 11/12/2018