



TCI EUROPE N.V.

# SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

Revision number: 1

Revision date: 10/03/2018

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

**Product name:** Tris(2-chloroethyl) Phosphate  
**Product code:** T3447

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

**Identified uses:** Reagents.

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

**Supplier:**

TCI EUROPE N.V.  
Boerenveldseweg 6  
Haven 1063  
B-2070 Zwijndrecht  
Telephone: +32(0)3 735 07 00  
E-mail: sales-eu@tcichemicals.com

**1.4 Emergency telephone number:** +32(0)70 245 245

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Acute toxicity (Oral)	Category 4
Carcinogenicity	Category 2
Reproductive toxicity	Category 1B
Long-term aquatic hazard	Category 2

### 2.2 Label elements

**Pictograms or hazard symbols**



**Signal word** Danger

**Hazard statements**  
H302-Harmful if swallowed.  
H351-Suspected of causing cancer.  
H360F-May damage fertility.  
H411-Toxic to aquatic life with long lasting effects.

**Precautionary statements**  
P201-Obtain special instructions before use.  
P273-Avoid release to the environment.  
P270-Do not eat, drink or smoke when using this product.  
P264-Wash hands and face thoroughly after handling.  
P280-Wear protective gloves, protective clothing, face protection.  
P308+P313-IF exposed or concerned: Get medical advice or attention.

### 2.3 Other hazards

**Results of PBT and vPvB assessment**

**PBT:** Not applicable  
**vPvB:** Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

**Components:** Tris(2-chloroethyl) Phosphate  
**Percent:** >93.0%(GC)  
**CAS RN:** 115-96-8  
**EC-No:** 204-118-5  
**Synonyms:** Phosphoric Acid Tris(2-chloroethyl) Ester  
**Chemical Formula:** C<sub>6</sub>H<sub>12</sub>Cl<sub>3</sub>O<sub>4</sub>P

#### SECTION 4: First aid measures

##### 4.1 Description of first aid measures

<b>Inhalation:</b>	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician.
<b>Skin contact:</b>	Remove/Take off immediately all contaminated clothing. Gently wash with plenty of soap and water. Call a POISON CENTER or doctor/physician.
<b>Eye contact:</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Call a POISON CENTER or doctor/physician.
<b>Ingestion:</b>	Call a POISON CENTER or doctor/physician. Rinse mouth.
<b>Protection of first-aiders:</b>	A rescuer should wear personal protective equipment, such as rubber gloves and air-tight goggles.

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

No data available

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

No data available

#### SECTION 5: Firefighting measures

##### 5.1 Extinguishing media

<b>Suitable extinguishing media:</b>	Dry chemical, foam, water spray, carbon dioxide.
<b>Unsuitable extinguishing media:</b>	Solid streams of water

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

Take care as it may decompose upon combustion or in high temperatures to generate poisonous fume. Carbon dioxide, Carbon monoxide, Hydrogen chloride, Phosphorus oxides

##### 5.3 Advice for firefighters

Fire-extinguishing work is done from the windward and the suitable fire-extinguishing method according to the surrounding situation is used. Uninvolved persons should evacuate to a safe place. In case of fire in the surroundings: Remove movable containers if safe to do so. When extinguishing fire, be sure to wear personal protective equipment

#### SECTION 6: Accidental release measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Keep people away from and upwind of spill/leak. Ensure adequate ventilation. Entry to non-involved personnel should be controlled around the leakage area by roping off, etc

##### 6.2 Environmental precautions

Prevent product from entering drains

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

Absorb spilled material in a suitable absorbent (e.g. rag, dry sand, earth, saw-dust). In case of large amount of spillage, contain a spill by bunding. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

##### 6.4 Reference to other sections

For disposal see section 13.

#### SECTION 7: Handling and storage

##### 7.1 Precautions for safe handling

Handling is performed in a well ventilated place. Wear suitable protective equipment. Prevent generation of vapour or mist. Wash hands and face thoroughly after handling. Use a closed system if possible. Use a ventilation, local exhaust if vapour or aerosol will be generated. Avoid all contact!

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

Keep container tightly closed. Store in a cool, dark and well-ventilated place. Store locked up. Store away from incompatible materials such as oxidizing agents.

##### 7.3 Specific end use(s)

No further relevant information available.

#### SECTION 8: Exposure controls/personal protection

##### 8.1 Control parameters

No data available

##### 8.2 Exposure controls

Install a closed system or local exhaust. Also install safety shower and eye bath.

###### **Respiratory protection:**

Half or full facepiece respirator, self-contained breathing apparatus(SCBA), supplied air respirator, etc. Use respirators approved under appropriate government standards and follow local and national regulations.

###### **Hand protection:**

Impervious gloves.

###### **Eye protection:**

Safety goggles. A face-shield, if the situation requires.

###### **Skin and body protection:**

Impervious protective clothing. Protective boots, if the situation requires.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state (20°C):	Liquid
Form:	Clear
Colour:	Colorless - Very pale yellow
Odour:	No data available
pH:	No data available
Melting point/freezing point:	No data available
Boiling point/range:	146°C /0.1kPa
Flash point:	222°C
Evaporation rate(Butyl Acetate=1):	No data available
Flammability(solid, gas):	No data available
Flammability or explosive limits:	
Lower:	No data available
Upper:	No data available
Vapour pressure:	No data available.
Vapour density:	No data available
Relative density:	1.43
Solubility(ies):	
[Water]	Insoluble
[Other solvents]	
Soluble:	Alcohols
Partition coefficient: n-octanol/water:	1.43
Autoignition temperature:	No data available
Decomposition temperature:	No data available
Dynamic Viscosity:	35.7mPa · s (25°C)
Kinematic viscosity:	No data available

9.2 Other safety information No data available

## SECTION 10: Stability and reactivity

10.1 Reactivity No data available

10.2 Chemical stability Stable under proper conditions.

10.3 Possibility of hazardous reactions No special reactivity has been reported.

10.4 Conditions to avoid No data available

10.5 Incompatible materials Oxidizing agents

10.6 Hazardous decomposition products Carbon dioxide, Carbon monoxide, Hydrogen chloride, Phosphorus oxides

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Acute Toxicity:	orl-rat LD50:1230 mg/kg skn-rbt LDLo:2 g/kg
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	mno-sat 1 umol/plate (-S9) mtr-mus-fbr 0.1 mg/L/21D (-S9)
Carcinogenicity:	orl-rat TDLo:45760mg/kg/104W-I
IARC =	Group 3 (Not classifiable as carcinogenic to humans)
NTP =	No data available
Reproductive toxicity:	orl-rat TDLo:1800 mg/kg (7-15D preg) orl-mus TDLo:6125 mg/kg (7D male/7D pre/21D preg)
STOT-single exposure:	No data available
STOT-repeated exposure:	No data available
Aspiration hazard:	No data available
RTECS Number:	KK2450000

## SECTION 12: Ecological information

<b>12.1 Toxicity</b>	
<b>Fish:</b>	96h LC50:>100 mg/L (Oryzias latipes) 48h LC50:66 mg/L (Oryzias latipes)
<b>Crustacea:</b>	48h EC50:170 mg/L (Daphnia magna)
<b>Algae:</b>	72h EC50:450 mg/L (Selenastrum capricornutum)
<b>12.2 Persistence and degradability</b>	4 % (by BOD) , 0 % (by TOC) , 1 % (by HPLC)
<b>12.3 Bioaccumulative potential</b>	0.6 - 0.8 (conc. 1 ppm) , 1.2 - 5.1 (conc. 0.1 ppm)
<b>12.4 Mobility in soil</b>	
<b>Log Pow:</b>	1.43
<b>Soil adsorption (Koc):</b>	390
<b>Henry's Law (PaM<sup>3</sup>/mol):</b>	0.333
<b>12.5 Results of PBT and vPvB assessment</b>	
<b>PBT:</b>	Not applicable
<b>vPvB:</b>	Not applicable
<b>12.6 Other adverse effects</b>	No data available

## SECTION 13: Disposal considerations

<b>13.1 Waste treatment methods</b>	Recycle to process, if possible. Consult your local regional authorities. You may be able to burn in a chemical incinerator equipped with an afterburner and scrubber system. Observe all federal, state and local regulations when disposing of the substance.
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## SECTION 14: Transport information

<b>14.1 UN number</b>	Not listed
<b>14.2 UN proper shipping name</b>	
<b>ADR/RID</b>	Not listed
<b>IMDG/IMO</b>	Not listed
<b>ICAO/IATA</b>	Not listed
<b>14.3 Transport hazard class(es)</b>	
<b>ADR/RID</b>	Does not correspond to the classification standard of the United Nations
<b>IMDG/IMO</b>	Does not correspond to the classification standard of the United Nations
<b>ICAO/IATA</b>	Does not correspond to the classification standard of the United Nations
<b>14.4 Packaging group</b>	
<b>ADR/RID</b>	-
<b>IMDG/IMO</b>	-
<b>ICAO/IATA</b>	-
<b>14.5 Environmental hazards</b>	
<b>Marine pollutant</b>	-
<b>14.6 Special precautions for user</b>	No data available

## SECTION 15: Regulatory information

<b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	
<b>Water Hazard Classes (WGK) :</b>	Class 3 - Severe hazard to waters
<b>Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No.1907/2006</b>	Listed (Annex XIV)
<b>15.2 Chemical safety assessment</b>	A chemical safety assessment has not been carried out.

**SECTION 16: Other information**

**Prepared by:** TCI EUROPE N.V.  
**Issue date:** 10/03/2018

This SDS was prepared sincerely on the basis of the information we could obtain, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. The products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

**End of Safety Data Sheet**