

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Tris[2-chloro-1-(chloromethyl)ethyl] phosphate

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2)
Chronic aquatic toxicity (Category 2)

According to European Directive 67/548/EEC as amended.
Harmful by inhalation. Irritating to skin. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Pictogram 

Signal word Danger

Hazard statement(s)
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P311 Call a POISON CENTER or doctor/physician.

Hazard symbol(s)
Xn Harmful
N Dangerous for the environment

R-phrases(s)
R20 Harmful by inhalation.
R38 Irritating to skin.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S-phrases(s)
S61 Avoid release to the environment. Refer to special instructions/ Safety data sheets.

Other hazards - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : C9H15Cl6O4P
Molecular Weight : 430,91 g/mol

CAS-No.	EC-No.	Classification	Concentration
Tris[2-chloro-1-(chloromethyl)ethyl] phosphate 13674-87-8	237-159-2	- Acute Tox. 3; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Aquatic Chronic 2; H302, H315, H319, H331, H411 Xn, N, R20 - R38 - R51/53	-

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

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

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.

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.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Normal measures for preventive fire protection.

Conditions for safe storage

Store in cool place. 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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

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).

Hand protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves.

Eye protection

Face shield and safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form liquid
Colour colourless

Safety data

pH no data available
Melting point no data available
Boiling point > 200 °C at 1.013 hPa - Decomposes on heating.
Flash point 250 - 252 °C - open cup
Ignition temperature 513 °C
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 9 hPa at 65 °C
Density 1,514 g/cm3
Water solubility no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Conditions to avoid

no data available

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Phosphorous oxides, Hydrogen chloride gas

11. TOXICOLOGICAL INFORMATION

Acute toxicity

LD50 Oral - rat - > 2.000 mg/kg

LD50 Oral - rat - 1.850 mg/kg

LC50 Inhalation - rat - 4 h - > 5.220 mg/m3

LD50 Dermal - rabbit - > 23.700 mg/kg

Remarks: Behavioral:Irritability. Diarrhoea Biochemical:Enzyme inhibition, induction, or change in blood or tissue levels:True cholinesterase.

Skin corrosion/irritation

Skin - rabbit - Skin irritation

Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

Genotoxicity in vitro - Ames test - Equivocal evidence.

Genotoxicity in vitro - Hamster - Embryo

Morphological transformation.

Genotoxicity in vivo - mouse - Gavage - negative

Micronucleus test

Carcinogenicity

Carcinogenicity - rat - Oral

Tumorigenic:Neoplastic by RTECS criteria. Kidney, Ureter, Bladder:Tumors.

Carcinogenicity - rat - Oral

Tumorigenic:Carcinogenic by RTECS criteria. Liver:Tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity - rat - Oral

Effects on Fertility: Litter size (e.g.; # fetuses per litter; measured before birth). Effects on Embryo or Fetus: Fetal death.

Developmental Toxicity - rat - Oral

Effects on Embryo or Fetus: Fetal death.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation Harmful if inhaled. May cause respiratory tract irritation.
Ingestion May be harmful if swallowed.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes May cause eye irritation.

Additional Information

RTECS: UB1473000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 1,1 mg/l - 96,0 h
Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 4,6 mg/l - 48 h
Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - > 10 mg/l - 72 h

Persistence and degradability

Biodegradability Result: - Not readily biodegradable.

Bioaccumulation potential

Bioaccumulation Oryzias latipes - 38 d
Bioconcentration factor (BCF): 50 - 89

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Avoid release to the environment.

13. DISPOSAL CONSIDERATIONS

Product

Observe all federal, state, and local environmental regulations. 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

ADR/RID

UN-Number: 3082 Class: 9 Packing group: III
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tris[2-chloro-1-(chloromethyl)ethyl] phosphate)

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-chloro-1-(chloromethyl)ethyl] phosphate)

Marine pollutant: Marine pollutant

IATA

UN-Number: 3082 Class: 9 Packing group: III
Proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Tris[2-chloro-1-(chloromethyl)ethyl] 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

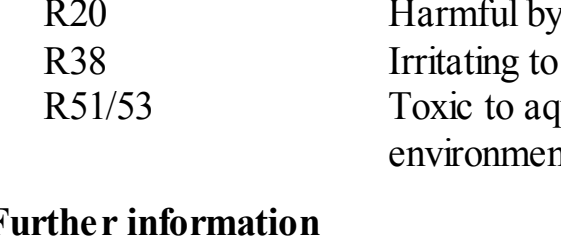
This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

Acute Tox. Acute toxicity
Aquatic Chronic Chronic aquatic toxicity
Eye Irrit. Eye irritation
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H411 Toxic to aquatic life with long lasting effects.
Skin Irrit. Skin irritation
N Dangerous for the environment
Xn Harmful
R20 Harmful by inhalation.
R38 Irritating to skin.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Further information



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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. Lookchem 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.