

## Chemical Safety Data Sheet MSDS / SDS

## 2,3-epoxypropyltrimethylammonium chloride SDS

Revision Date:2024-04-25 Revision Number:1

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****Product identifier**

Product name: 2,3-epoxypropyltrimethylammonium chloride

CAS: 3033-77-0

**Relevant identified uses of the substance or mixture and uses advised against**

Relevant identified uses: For R&amp;D use only. Not for medicinal, household or other use.

Uses advised against: none

**Company Identification**

Company: Chemicalbook.in

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**SECTION 2: Hazards identification****Classification of the substance or mixture**

Acute toxicity - Category 4, Oral

Acute toxicity - Category 4, Dermal

Serious eye damage, Category 1  
Skin sensitization, Category 1  
Germ cell mutagenicity, Category 2  
Carcinogenicity, Category 1B  
Specific target organ toxicity - repeated exposure, Category 2  
Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 3  
Reproductive toxicity, Category 2

#### GHS label elements, including precautionary statements

Pictogram(s)



Signal word

Danger

#### Hazard statement(s)

H302 Harmful if swallowed  
H312 Harmful in contact with skin  
H318 Causes serious eye damage  
H317 May cause an allergic skin reaction  
H341 Suspected of causing genetic defects  
H350 May cause cancer  
H373 May cause damage to organs through prolonged or repeated exposure  
H412 Harmful to aquatic life with long lasting effects

#### Precautionary statement(s)

#### Prevention

P264 Wash ... thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P203 Obtain, read and follow all safety instructions before use.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.

#### Response

P301+P317 IF SWALLOWED: Get medical help.

P330 Rinse mouth.  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P317 Get medical help.  
P321 Specific treatment (see ... on this label).  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P305+P354+P338 IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P333+P317 If skin irritation or rash occurs: Get medical help.  
P318 IF exposed or concerned, get medical advice.  
P319 Get medical help if you feel unwell.

#### **Storage**

P405 Store locked up.

#### **Disposal**

P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

#### **Other hazards which do not result in classification**

no data available

### **SECTION 3: Composition/information on ingredients**

#### **Substance**

Chemical name:	2,3-epoxypropyltrimethylammonium chloride
Common names and synonyms:	2,3-epoxypropyltrimethylammonium chloride
CAS number:	3033-77-0
EC number:	221-221-0
Concentration:	100%

### **SECTION 4: First aid measures**

Description of necessary first-aid measures

**If inhaled**

Fresh air, rest.

**Following skin contact**

Remove contaminated clothes. Rinse and then wash skin with water and soap.

**Following eye contact**

Rinse with plenty of water for several minutes (remove contact lenses if easily possible). Refer immediately for medical attention.

**Following ingestion**

Rinse mouth. Refer for medical attention .

**Most important symptoms/effects, acute and delayed**

no data available

**Indication of immediate medical attention and special treatment needed, if necessary**

no data available

**SECTION 5: Firefighting measures****Suitable extinguishing media**

In case of fire in the surroundings, use appropriate extinguishing media.

**Specific hazards arising from the chemical**

Not combustible. Gives off irritating or toxic fumes (or gases) in a fire. Risk of fire and explosion as a result of decomposition when heated.

**Special protective actions for fire-fighters**

In case of fire in the surroundings, use appropriate extinguishing media. In case of fire: keep drums, etc., cool by spraying with water.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### Environmental precautions

Personal protection: chemical protection suit including self-contained breathing apparatus. Do NOT let this chemical enter the environment. Collect leaking and spilled liquid in sealable containers as far as possible. Absorb remaining liquid in sand or inert absorbent. Then store and dispose of according to local regulations.

### Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

## SECTION 7: Handling and storage

### Precautions for safe handling

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

### Conditions for safe storage, including any incompatibilities

Cool. Store in an area without drain or sewer access.

## SECTION 8: Exposure controls/personal protection

### Control parameters

### Occupational Exposure limit values

MAK: skin absorption (H); sensitization of skin (SH); carcinogen category: 2

### Biological limit values

no data available

### **Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

### **Individual protection measures, such as personal protective equipment (PPE)**

#### **Eye/face protection**

Wear safety goggles or face shield.

#### **Skin protection**

Protective gloves. Protective clothing.

#### **Respiratory protection**

Use closed system or ventilation.

#### **Thermal hazards**

no data available

## **SECTION 9: Physical and chemical properties and safety characteristics**

Physical state:	Solid. Crystalline.
Colour:	Yellowish.
Odour:	no data available
Melting point/freezing point:	Ca. 118 - ca. 126 °C.
Boiling point or initial boiling point and boiling range:	110 °C.
Flammability:	Not combustible. Gives off irritating or toxic fumes (or gases) in a fire.

Lower and upper explosion limit/flammability limit:	no data available
Flash point:	170 °C.
Auto-ignition temperature:	> 400 °C.
Decomposition temperature:	no data available
pH:	no data available
Kinematic viscosity:	dynamic viscosity (in mPa s) = 80. Temperature:20°C.
Solubility:	in water: miscible
Partition coefficient n-octanol/water:	log Pow = < -1.3. Temperature:25 °C.
Vapour pressure:	< 0 hPa. Temperature:22 °C. Remarks:Temperature range between 22 to 80°C.
Density and/or relative density:	1.18. Temperature:20 °C.
Relative vapour density:	no data available
Particle characteristics:	no data available

## SECTION 10: Stability and reactivity

### Reactivity

Decomposes above 35°C . This produces toxic and corrosive fumes. This generates fire or explosion hazard.

### Chemical stability

no data available

**Possibility of hazardous reactions**

Decomposes above 35°C . This produces toxic and corrosive fumes. This generates fire or explosion hazard.

**Conditions to avoid**

no data available

**Incompatible materials**

no data available

**Hazardous decomposition products**

no data available

**SECTION 11: Toxicological information****Acute toxicity**

Oral: LD50 - rat (male/female) - 1 088 mg/kg bw. Remarks:Converted for pure EPTAC.

Inhalation: LC0 - rat (female) - > 8.17 mg/L air.

Dermal: LD50 - rabbit - 1 500 - 3 000 mg/kg bw.

**Skin corrosion/irritation**

no data available

**Serious eye damage/irritation**

no data available

**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available



### **Carcinogenicity**

no data available

### **Reproductive toxicity**

no data available

### **STOT-single exposure**

The substance is severely irritating to the eyes and respiratory tract.

### **STOT-repeated exposure**

Repeated or prolonged contact may cause skin sensitization. The substance may have effects on the kidneys. Animal tests show that this substance possibly causes toxicity to human reproduction or development.

### **Aspiration hazard**

Evaporation at 20°C is negligible; a harmful concentration of airborne particles can, however, be reached quickly on spraying.

## **SECTION 12: Ecological information**

### **Toxicity**

Toxicity to fish: LC50 - Danio rerio (previous name: Brachydanio rerio) - 1 992 mg/L - 96 h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna - 12.5 mg/L - 48 h.

Toxicity to algae: NOEC - Desmodesmus subspicatus (previous name: Scenedesmus subspicatus) - 580 mg/L - 72 h.

Toxicity to microorganisms: EC50 - activated sludge of a predominantly domestic sewage - > 2 000 mg/L - 3 h.

### **Persistence and degradability**

no data available

### **Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**Other adverse effects**

no data available

**SECTION 13: Disposal considerations****Disposal methods****Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

**SECTION 14: Transport information****UN Number**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

**UN Proper Shipping Name**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

**Transport hazard class(es)**

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)  
IATA: Not dangerous goods. (For reference only, please check.)

#### **Packing group, if applicable**

ADR/RID: Not dangerous goods. (For reference only, please check.)  
IMDG: Not dangerous goods. (For reference only, please check.)  
IATA: Not dangerous goods. (For reference only, please check.)

#### **Environmental hazards**

ADR/RID: No  
IMDG: No  
IATA: No

#### **Special precautions for user**

no data available

#### **Transport in bulk according to IMO instruments**

no data available

### **SECTION 15: Regulatory information**

**Safety, health and environmental regulations specific for the product in question**

**European Inventory of Existing Commercial Chemical Substances (EINECS)**

Listed.

**EC Inventory**

Listed.

**United States Toxic Substances Control Act (TSCA) Inventory**

Listed.

**China Catalog of Hazardous chemicals 2015**

Not Listed.

#### **New Zealand Inventory of Chemicals (NZIoC)**

Not Listed.

#### **(PICCS)**

Listed.

#### **Vietnam National Chemical Inventory**

Listed.

#### **IECSC)**

Listed.

#### **Korea Existing Chemicals List (KECL)**

Listed.

### **SECTION 16: Other information**

#### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

#### **References**

IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:  
[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

ERG - Emergency Response Guidebook by U.S. Department of Transportation, website:  
<http://www.phmsa.dot.gov/hazmat/library/erg>

Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

### **Other Information**

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home.

Disclaimer: 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. We as supplier shall not be held liable for any