Chemical Safety Data Sheet MSDS / SDS

# 2-P-TOLYLOXYMETHYL-OXIRANE

Revision Date:2024-12-21 Revision Number:1

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

#### **Product identifier**

Product name	: 2-P-TOLYLOXYMETHYL-OXIRANE		
CBnumber	: CB9220188		
CAS	: 2186-24-5		
EINECS Number	: 218-574-8		
Synonyms	: p-cresylglycidylether		
Relevant identified uses of the substance or mixture and uses advised against			
Relevant identified uses	: For R&D use only. Not for medicinal, household or other use.		
Uses advised against	: none		
Company Identification			
Company	: Chemicalbook		
Address	: Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing		

# SECTION 2: Hazards identification

#### Classification of the substance or mixture

Skin irritation, Category 2 Skin sensitization, Category 1 Germ cell mutagenicity, Category 2 Hazardous to the aquatic environment, long-term (Chronic) - Category Chronic 2

#### Label elements

#### Pictogram(s)

Signal word

Warning

#### Hazard statement(s)

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H341 Suspected of causing genetic defects

H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

1

#### Prevention

P264 Wash ... thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

ι,

P272 Contaminated work clothing should not be allowed out of the workplace.

P203 Obtain, read and follow all safety instructions before use.

P273 Avoid release to the environment.

#### Response

P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see ... on this label).

P332+P317 If skin irritation occurs: Get medical help.

P362+P364 Take off contaminated clothing and wash it before reuse.

P333+P317 If skin irritation or rash occurs: Get medical help.

P318 IF exposed or concerned, get medical advice.

P391 Collect spillage.

#### 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

no data available

### SECTION 3: Composition/information on ingredients

#### Substance

Product name	: 2-P-TOLYLOXYMETHYL-OXIRANE
Synonyms	: p-cresylglycidylether
CAS	: 2186-24-5
EC number	: 218-574-8
MF	: C10H12O2
MW	: 164.2

### SECTION 4: First aid measures

#### Description of first aid measures

#### If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately.

Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

#### Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

#### Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

#### **Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

Contact with eyes causes irritation. Contact with skin causes primary irritation and allergic sensitization. (USCG, 1999)

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

Skin contact should be followed by thorough and repeated washing with soap and water. Do not use solvents to remove it. Eye contact requires flushing with water immediately and consultation with a physician.

# **SECTION 5: Firefighting measures**

#### **Extinguishing media**

Dry Chemical, foam, carbon dioxide.

#### **Specific Hazards Arising from the Chemical**

Special Hazards of Combustion Products: Wear full body and respiratory protection. (USCG, 1999)

#### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### SECTION 6: Accidental release measures

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

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

#### **Environmental precautions**

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

#### 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 sparkproof 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

Store the container tightly closed in a dry, cool and well-ventilated place. Store apart from foodstuff containers or incompatible materials.

# SECTION 8: Exposure controls/personal protection

#### **Control parameters**

#### **Occupational Exposure limit values**

Component	[(p-tolyloxy)met	[(p-tolyloxy)methyl]oxirane			
CAS No.	2186-24-5				
	Limit value - Eight hours		Limit value - Short term		
	ppm	mg/m <sup>3</sup>	ррт	mg/m <sup>3</sup>	
Sweden	10	70	15 (1)	100 (1)	
	Remarks	Remarks			
Sweden	(1) 15 minutes	(1) 15 minutes average value			

#### **Biological limit values**

no data available

#### **Exposure controls**

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

#### Individual protection measures

#### Eye/face protection

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

#### Skin protection

Wear fire/flame resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The

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

#### **Respiratory protection**

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

# SECTION 9: Physical and chemical properties

#### Information on basic physicochemical properties

Physical state	Cresyl glycidyl ether is a colorless liquid. Sinks and mixes with water. (USCG, 1999)
Colour	Clear, colorless Liquid

Odour	no data available
Melting point/freezing point	no data available
Boiling point or initial boiling point and	258°C at 760mmHg
boiling range	
Flammability	no data available
Lower and upper explosion	no data available
limit/flammability limit	
Flash point	104.3°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	5 to 25 cm/sec at 25 deg C
Solubility	Insoluble (less than of equal to 1 mg/mL at 70° F) (NTP, 1992)
Partition coefficient n-octanol/water	log Kow = 2.16 (est)
Vapour pressure	0.0227mmHg at 25°C
Density and/or relative density	1.094g/cm3
Relative vapour density	no data available
Particle characteristics	no data available

### SECTION 10: Stability and reactivity

#### Reactivity

Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water.

#### **Chemical stability**

no data available

#### Possibility of hazardous reactions

A phenol and epoxide. Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.

#### **Conditions to avoid**

no data available

#### Incompatible materials

Cresyl glycidyl ether/ is incompatible with strong oxidizing agents, strong acids, or bases.

#### Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

# SECTION 11: Toxicological information

#### Acute toxicity

- Oral: LD50 Rat oral 5140 mg/kg
- Inhalation: LC50 Rat inhalation 1220 ppm/4 hr
- Dermal: no data available

#### 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

no data available

#### STOT-repeated exposure

no data available

#### Aspiration hazard

no data available

# SECTION 12: Ecological information

#### Toxicity

Toxicity to fish: LC50 Salmo gairdneri (Rainbow trout) 2.8-5.6 mg/L/96 hr /Conditions of bioassay not specified in source examined/[European Chemicals Bureau; IUCLID Dataset,

Toxicity to daphnia and other aquatic invertebrates: no data available

Toxicity to algae: no data available

Toxicity to microorganisms: no data available

#### Persistence and degradability

AEROBIC: Biodegradation data for cresyl glycidyl ether were not available(SRC, 2006). However, a 33% theoretical BOD using the Japanese MITI test for analogous phenyl glycidyl ether(1) suggests that biodegradation of cresyl glycidyl ether may occur in aquatic environments(SRC).

#### **Bioaccumulative potential**

An estimated BCF of 9 was calculated for cresyl glycidyl ether(SRC), using an estimated log Kow of 2.2(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

#### Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of cresyl glycidyl ether can be estimated to be 67(SRC). According to a classification scheme(2), this estimated Koc value suggests that cresyl glycidyl ether is expected to have high mobility in soil.

#### 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: Yes IMDG: Yes IATA: Yes

#### 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 Not Listed. China Catalog of Hazardous chemicals 2015 Not Listed. New Zealand Inventory of Chemicals (NZIoC) Not Listed. PICCS Not Listed. **Vietnam National Chemical Inventory** Not Listed. IECSC Not Listed. Korea Existing Chemicals List (KECL) Not 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

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

ChemlDplus, 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/

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