

MATERIAL SAFETY DATA SHEET
1,2-EPOXY-7-OCTENE 97%

Section 1 - Chemical Product and Company Identification

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|------------------------------------|---|
| MSDS Name: | 1,2-EPOXY-7-OCTENE 97% |
| Catalog Numbers: | 1.8 |
| Synonyms: | 5-hexenyloxirane; 1,7-octadiene monoepoxide |
| Company Identification: | Tau-Chem, Ltd. Nobelova 34, P.O. Box 29 836 05 Bratislava, Slovak Republic Phone: +421 2 44 452 252 Fax: +421 2 44 457 645 |
| POISON CENTER: | National Toxicological Information Centre Limbová 5, 833 05 Bratislava, |
| Emergency Numbers Slovakia: | Phone: +421 2 54 774 166 Fax: +421 2 54 774 605 |


Section 2 - Hazards Identification

Classification of the substance or mixture

According to Regulation (EC) No 1272/2008
 Flammable liquid, (Category 3)
 Acute toxicity, Inhalation (Category 4)
 Acute toxicity, Dermal (Category 4)
 Acute toxicity, Oral (Category 4)
 Skin irritation (Category 2)
 Eye irritation (Category 2)
 Specific target organ toxicity – single exposure (Category 3)

According to European Directive 67/548/EEC as amended.
 Flammable. Irritating to eyes, respiratory system and skin.

Label elements

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|----------------------------|---|
| Pictogram |  |
| Signal word | Warning |
| Hazard statement(s) | |
| H226 | <u>Flammable</u> liquid and vapor. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eyes irritation. |
| H335 | May cause respiratory irritation. |
| H242 | Use only non-sparking tools. |
| EUH019 | May form explosive peroxides. |
| EUH070 | Toxic by eye contact. |
| Precautionary statement(s) | |

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| P210 | Keep away from heat/sparks/open flames/hot surfaces. – No smoking. |
| P241 | Use <u>explosion</u> -proof electrical/ <u>ventilating</u> /lighting/equipment. |
| P303+P361+P353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P304+P340 | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. |
| P411+P235 | Store at temperatures not exceeding 6°C. Keep cool. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulation (specified in section 13). |
| Hazard symbol(s) | |
| F | Flammable. |
| Xi | Irritant. |
| R-phrases(s) | |
| R10 | Flammable. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R19 | May form explosive peroxides. |
| R41 | Risk of serious damage to eyes. |
| S-phrases(s) | |
| S26 | In case of contact with eyes rinse immediately with plenty of water and seek for medical advice. |
| S37 | Wear protective gloves. |
| Other hazards | None |

Section 3 - Composition, Information on Ingredients

| CAS# | Chemical Name: | % | EINECS# |
|-----------------------|--|----|-----------|
| 19600-63-6 | 1,2-EPOXY-7-OCTENE | 97 | 243-178-7 |
| Classification | Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H226,H315, H319,H335, H242; EUH019; EUH070 F; Xi; R10 - R36/37/38; R19, R41 | | |

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

Section 4 - First Aid Measures

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| 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 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.

Section 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 apparatus breathing apparatus for fire fighting if necessary.

Section 6 - Accidental Release Measures

Personal precautions: Use personal protective equipment. Avoid breathing dust, mist or gas. Ensure adequate ventilation.

Environmental precautions: Do not let product enter drains.

Methods and materials for containment and cleaning up Absorb with liquid-binding material (sand, diatomite, universal binders). Ensure adequate ventilation. Keep away from sources of ignition.

Section 7 - Handling and Storage

Precautions for safe handling: Avoid contact with skin and eyes. Avoid inhalation of vapor. Keep container tightly sealed. Keep ignition sources away – Do not smoke. Protect against electrostatic charges.

Fumes can combine with air to form an explosive mixture.

Conditions for safe storage: Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area. Refrigerator/flammables. Containers should be dated when opened and tested periodically for the presence of peroxides. Keep container tightly closed in a dry and ventilated place. Keep away from oxidizing agents.

Recommended storage temperature: 0-6°C.

Section 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: Safety glasses with side-shields conforming to EN 166. Use equipment for eye

protection tested and approved under appropriate government standards as NIOSH (US) or EN 166 (EU)

Skin and body protection: Impervious 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.

Section 9 - Physical and Chemical Properties

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|-----------------------------------|----------------------------------|
| Physical State: | Clear liquid |
| Color: | Colorless |
| Odor: | Not available |
| pH: | Not available |
| Vapor Pressure: | Not available |
| Viscosity: | Not available |
| Boiling Point: | 54 °C / 10 mm Hg |
| Freezing/Melting Point: | Not available |
| Autoignition Temperature: | Not available |
| Flash Point: | 38 °C |
| Explosion Limits: Lower: | Not available |
| Explosion Limits: Upper: | Not available |
| Decomposition Temperature: | Not available |
| Solubility in water: | Not available |
| Specific Gravity/Density: | 0.854 g/cm ³ |
| Refractive Index: | 1.4350 |
| Molecular Formula: | C ₈ H ₁₄ O |
| Molecular Weight: | 126.20 |

Section 10 - Stability and Reactivity

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| Chemical Stability: | This material may be sensitive to peroxide formation. |
| Conditions to Avoid: | Incompatible materials, ignition sources, moisture, heating to decomposition. |
| Incompatibilities with Other Materials | Strong oxidizing agents, reducing agents, strong acids, strong bases, acids (mineral, non-oxidizing, e.g. hydrochloric acid, hydrofluoric acid, muriatic acid, phosphoric acid), acids (mineral, oxidizing, e.g. chromic acid, hypochlorous acid, nitric acid, sulfuric acid), acids (organic, e.g. acetic acid, benzoic acid, formic acid, methanoic acid, oxalic acid), alcohols and glycols (e.g. butyl alcohol, ethanol, methanol, ethylene glycol), aldehydes (e.g. acetaldehyde, acrolein, chloral, formaldehyde), amines (aliphatic and aromatic, e.g. dimethyl amine, propylamine, pyridine, triethylamine), azo, diazo, and hydrazines (e.g. dimethyl hydrazine, hydrazine, methyl hydrazine), caustics (e.g. ammonia, ammonium hydroxide, calcium hydroxide, potassium hydroxide, sodium hydroxide), cyanides (e.g. potassium cyanide, sodium cyanide), dithiocarbamates (e.g. ferbam, maneb, metham, thiram), mercaptans and other organic sulfides (e.g. butyl mercaptan, carbon disulfide, methanethiol), metals (alkali and alkaline, e.g. cesium, potassium, sodium), metals as powders (e.g. |

Hazardous Decomposition Products

hafnium, raney nickel), metals and metal compounds (toxic, e.g. beryllium, lead acetate, nickel carbonyl, tetraethyl lead), nitrides (e.g. potassium nitride, sodium nitride), peroxides and hydroperoxides (organic, e.g. acetyl
Carbon monoxide, carbon dioxide.

Section 11 - Toxicological Information

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| Acute toxicity | No data available No data available |
| Skin corrosion/irritation | Irritant for skin and mucous membranes. |
| Serious eye damage/eye irritation | Irritant effect. |
| Respiratory or skin sensitization | No sensitizing effect known. |
| Germ cell mutagenicity | No data available |
| Carcinogenicity: | |
| | IARC: No component of this product presents at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. |
| RTECS#: | RR0502000 |
| Reproductive toxicity: | 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 |
| Potential health effect: | |
| Inhalation | Harmful if inhaled. Causes respiratory tract irritation. |
| Ingestion | Harmful if swallowed. |
| Skin | Harmful if absorbed through skin. Causes skin irritation. |
| Eyes | Risk of serious damage to eyes. |
| Signs and Symptoms of Exposure | |
| | Nausea, Headache, Vomiting. To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated. |
| Additional Information | |
| | No data available |

Section 12 – Ecological Information

| | |
|--------------------------------------|-------------------|
| Toxicity: | No data available |
| Persistence and degradability | No data available |
| Bioaccumulative potential | No data available |
| Mobility in soil | No data available |
| PBT and vPvB assessment | No data available |
| Other adverse effects | No data available |

Section 13 - Disposal Considerations

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|-------------------------------|--|
| Product | This material may be burned in a chemical incinerator equipped with an afterburner and a scrubber. Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. |
| Contaminated packaging | Dispose of as unused product. |

Section 14 - Transport Information

| | IATA | IMDG | RID/ADR |
|-----------------------|-----------------------------|-----------------------------|-----------------------------|
| Shipping Name: | FLAMMABLE LIQUID, N.O.S. | FLAMMABLE LIQUID, N.O.S. | FLAMMABLE LIQUID, N.O.S. |
| Hazard Class: | 3 | 3 | 3 |
| UN Number: | 1993 | 1993 | 1993 |
| Packing Group: | III | III | III |
| | | EMS No.: F-E; S-E | |
| | | Marine pollutant: No | |

Section 15 - Regulatory Information

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

Section 16 – Other Information

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

| | |
|-------------|--|
| Acute Tox. | Acute Toxicity. |
| Skin Irrit. | Skin irritation. |
| Eye Irrit. | Eye irritation. |
| STOT SE | Specific target organ toxicity – single exposure |
| EUH019 | May form explosive peroxides |
| EUH070 | Toxic by eye contact |
| H302 | Harmful if swallowed. |
| H226 | Flammable. |
| H242 | Use only non-sparking tools. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eyes irritation. |
| H335 | May cause respiratory irritation. |
| Xi | Irritant. |
| R10 | Flammable. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |

MSDS Creation Date: 22/6/2007

Revision #1:21/07/2010

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.