

SAFETY DATA SHEET  
(R)-(+)-1,2-EPOXY-5-HEXENE 99%

### Section 1 - Chemical Product and Company Identification

#### 1.1 Product identifiers

Product name: (R)-(+)-1,2-EPOXY-5-HEXENE 99%  
CAS-No. 137688-20-1  
EINECS-No. Not listed  
Catalog Numbers: 69.43  
**Synonyms:** Oxirane, 2-(3-buten-1-yl)-,(2R)

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

Identified uses Laboratory chemicals, Manufacture of substances

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

Company: TAU-CHEM, Ltd.  
Nobelova 34, P.O. Box 29  
836 05 Bratislava, Slovak Republic  
Telephone +421 2 44 452 252  
Fax +421 2 44 457 645

**POISON CENTER:** National Toxicological Information Centre  
Limbová 5, 833 05 Bratislava,

**1.4 Emergency telephone:** +421 2 54 774 166

### Section 2 - Hazards Identification

#### 2.1 Classification of the substance or mixture

##### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2)  
Carcinogenicity (Category 1B)  
Acute Toxicity (Category 4)  
Eye irritation (Category 2)

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Highly flammable. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes, respiratory system and skin. May cause cancer.

#### 2.2 Label elements

##### Labeling according to Regulation (EC) No 1272/2008 [CLP]

Pictogram



Signal word

Danger

Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H350	May cause cancer.
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H312	Harmful in contact with skin.
Precautionary statement(s)	
P210	Keep away from heat/sparks/opened flames/hot surfaces.- No smoking
P261	Avoid breathing dust/foam/mist/spray.
P243	Take precautionary measures against static discharge.
P281	Use personal protective equipment as required.
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308+P313	IF exposed or concerned: Get medical advice/attention.
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.

Hazard symbol(s)

**According to European Directive 67/548/EEC as amended**



Hazard symbol(s)

F	Flammable.
T	Toxic.

R-phrases(s)

R11	Highly flammable
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R45	May cause cancer.

S-phrases(s)

S16	Keep away from sources of ignition - No smoking.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S37/39	Wear suitable gloves and eye/face protection.

**2.3 Other hazards**

None.

## Section 3 - Composition, Information on Ingredients

### 3.1 Substances

CAS#	Chemical Name:	%	EINECS#
137688-20-1	(R)-(+)-1,2-EPOXY-5-HEXENE	99	Not listed

Formula	C <sub>6</sub> H <sub>10</sub> O
Molecular weight	98.15 g/mol

## Section 4 - First Aid Measures

### 4.1 Description of first aid measures

<b>General advice:</b>	Consult a physician. Show this safety data sheet to the doctor in attendance.
<b>If inhaled:</b>	If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.
<b>In case of skin contact:</b>	Wash off with soap and plenty of water. Consult a physician.
<b>In case eye contact:</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>If swallowed:</b>	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

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

No data available

## Section 5 - Firefighting Measures

### 5.1 Extinguishing media

#### Suitable extinguishing media:

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective.

Cool all affected containers with flooding quantities of water.

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

Carbon oxides.

### 5.3 Advice for firefighters

Wear self-contained apparatus breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## Section 6 - Accidental Release Measures

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

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains

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

Contain spillage and collect with an electrically protected vacuum cleaner or by wet brushing and place in container for disposal according to local regulations. (See section 13)

### **6.4 Reference to other sections**

For disposal see section 13.

## **Section 7 - Handling and Storage**

### **7.1 Precautions for safe handling:**

Avoid contact with skin and eyes. Avoid inhalation of vapor, mist and gas. Ensure adequate ventilation. Keep away from sources of ignition. – No smoking. Take measures to prevent to build up of electrostatic charge.

### **7.2 Conditions for safe storage**

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. Keep away from sources of ignition. Store in a cool, dry place. Do not store in direct sunlight. Store in a tightly closed container. Store in a dry area. Moisture sensitive.

### **7.3 Specific end uses**

No data available

## **Section 8 - Exposure Controls, Personal Protection**

### **8.1 Control parameters**

#### **Component with workplace control parameters**

### **8.2 Exposure controls**

#### **Appropriate engineering controls**

General industrial hygiene practice

#### **Personal protective equipment**

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

Safety glasses with side-shields conforming to EN 166. Use equipment for eye protection tested and approved under appropriate

##### **Skin and 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. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### **Body protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace

##### **Respiratory protection**

Where protection from nuisance levels of dust are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)

## Section 9 - Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

a) Appearance	Form: Liquid Colour: Colourless to slight yellow
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling point range:	119 - 121 °C / 760 mm Hg
g) Flash Point:	15 °C closed cup
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	0.870 g/cm <sup>3</sup>
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Autoignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosives properties	No data available
t) Oxidizing properties	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

No data available

### 10.3 Possibility of hazardous reaction

No data available

### 10.4 Conditions to Avoid

Incompatible materials, ignition sources, exposure to moist air or water.

### 10.5 Incompatible materials

Acids, bases, oxidizing agents.

## 10.6 Hazardous Decomposition Products

Other decomposition products – no data available

## Section 11 - Toxicological Information

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	No data available
<b>Skin corrosion/irritation</b>	No data available
<b>Serious eye damage/eye irritation</b>	No data available
<b>Respiratory or skin sensitization</b>	No data available
<b>Germ cell mutagenicity</b>	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.

<b>Reproductive toxicity:</b>	No data available
<b>Specific target organ toxicity – single exposure</b>	Inhalation – May cause respiratory irritation.
<b>Specific target organ toxicity – repeated exposure</b>	No data available
<b>Aspiration hazard</b>	No data available
<b>Potential health effect:</b>	
<b>Inhalation</b>	Harmful if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	Harmful if swallowed.
<b>Skin</b>	Harmful if absorbed through skin. Cause skin irritation.
<b>Eyes</b>	Causes serious eye irritation

#### **Signs and Symptoms of Exposure**

To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.

#### **Additional Information**

RTECS: Not available

## Section 12 – Ecological Information

<b>12.1 Toxicity</b>	No data available
<b>12.2 Persistence and degradability</b>	No data available
<b>12.3 Bioaccumulative potential</b>	No data available
<b>12.4 Mobility in soil</b>	No data available
<b>12.5 PBT and vPvB assessment</b>	No data available
<b>12.6 Other adverse effects</b>	No data available

## Section 13 - Disposal Considerations

### 13.1 Waste treatment methods

<b>Product</b>	Burn in a chemical incinerator equipped with an afterburner and a scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.
<b>Contaminated packaging</b>	Dispose of as unused product.

## Section 14 - Transport Information

### 14.1 UN number

ADR/RID: 1993

IMDG: 1993

IATA: 1993

### 14.2 UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, N.O.S.

IMDG: FLAMMABLE LIQUID, N.O.S.

IATA: FLAMMABLE LIQUID, N.O.S.

### 14.3 Transport hazard class

ADR/RID: 3

IMDG: 3

IATA: 3

### 14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

### 14.5 Environmental hazards

ADR/RID: no

IMDG: Marine pollutant: no

IATA: no

### 14.6 Special precautions for user

No data available

## Section 15 - Regulatory Information

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

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

No data available

### 15.6 Chemical Safety Assessment

No data available

## Section 16 - Other Information

**SDS version : 2**

**Revision Date: 4/1/2012**

### Further information

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

Disclaimer:

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. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.