

SAFETY DATA SHEET
3,4-EPOXY-1-BUTENE 98%

Section 1 - Chemical Product and Company Identification

1.1 Product identifiers

Product name: 3,4-EPOXY-1-BUTENE 98%
CAS-No. 930-22-3
EINECS-No. 213-210-4
Catalog Numbers: 1.19
Synonyms: 2-Vinyloxirene; 3,4-Epoxy-1-butene; Butadiene monoxide

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)
Acute toxicity, Oral (Category 4)
Eye irritation (Category 2)
Specific target organ toxicity – single exposure (Category 3)

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

Highly flammable. Harmful if swallowed. Irritating to eyes.

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.
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/ hot surfaces. – No smoking.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
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.
P337+P313	If eye irritation persists: Get medical advice/attention.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P403+P235	Store in a well-ventilated place. Keep cool.
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	Highly flammable.
Xn	Harmful.
R-phrases(s)	
R11	Highly flammable.
R22	Harmful if swallowed.
R36	Irritating to eyes.
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.
S36/37	Wear suitable protective clothing and gloves.
2.3 Other hazards	None.

Section 3 - Composition, Information on Ingredients

3.1 Substances

CAS#	Chemical Name:	%	EINECS#
930-22-3	3,4-EPOXY-1-BUTENE	98	213-210-4
Formula	C ₄ H ₆ O		
Molecular weight	70.09 g/mol		

Section 4 - First Aid Measures

4.1 Description of 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 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.

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 after 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 container.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid breathing vapors, mist or gas. Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low 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

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

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 vapours or mist. Keep away from sources of ignition – No smoking. Take measures to prevent the built up of electrostatic charge.

7.2 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. Recommended storage temperature: 2-8°C. Handle and open container with care.

7.3 Specific end uses

No data available

Section 8 - Exposure Controls, Personal Protection

8.1 Control parameters

Component with workplace control parameters

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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

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:	65-66 °C – lit.
g) Flash Point:	- 50 °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	0.87 g/cm ³ at 25°C
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

Heat, flames and sparks.

10.5 Incompatible materials

Oxidizing agents, acids, bases.

10.6 Hazardous Decomposition Products

Other decomposition products – no data available

Section 11 - Toxicological Information

11.1 Information on toxicological effects

Acute toxicity No data available

Skin corrosion/irritation	No data available
Serious eye damage/eye irritation	No data available
Respiratory or skin sensitization	No data available
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.

Reproductive toxicity:	No data available
Specific target organ toxicity – single exposure	Inhalation – May cause respiratory irritation.
Specific target organ toxicity – repeated exposure	No data available
Aspiration hazard	No data available
Potential health effect:	
Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes 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: EM7350000

Section 12 – Ecological Information

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

Section 13 - Disposal Considerations

13.1 Waste treatment methods

Product	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

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

EMS-No: F-E, S-E

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

Creation Date: 30/01/2012

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.