

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

## 1.1 Product identifiers

Product Name: (S)-4-chloro-1,2-epoxybutane

CAS Number: 13067-79-3

Catalog Numbers: A678445

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

Identified uses: For laboratory research purposes. Not for drug or household use.

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

Ambeed, Inc.

3205 N WILKE RD, STE 3205-125, Arlington Hts, IL 60004, USA

Tel: 1-352-323-3500 E-mail: sales@ambeed.com

## 1.4 Emergency telephone number

Emergency phone (USA): 1-352-323-3500

Emergency phone (Canada): 1-800-535-5053

## 2. HAZARDS IDENTIFICATION

## 2.1 Classification of the substance or mixture

GHS Classification in accordance with Hazardous Products Regulations (HPR) (SOR/2015-17)

Flammable liquids (Category 4) H227

Acute toxicity, oral (Category 4) H302

Acute toxicity, dermal (Category 4) H312

Skin corrosion/irritation (Category 2) H315

Serious eye damage/eye irritation (Category 2A) H319

Carcinogenicity (Category 1A, 1B) H350

No Resource File

## 2.2 GHS Label elements, including precautionary statements

Pictogra



Signal word: Danger

Hazard statement(s)

H227

Combustible liquid

H302

Harmful if swallowed

H312

Harmful in contact with skin

H315

Causes skin irritation

H319

Causes serious eye irritation

H350

May cause cancer

Precautionary statement(s)

## SAFETY DATA SHEET (A678445)

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P210

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.

P261

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

P264

Wash hands thoroughly after handling.

P271

Use only outdoors or in a well-ventilated area.

P280

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

P302+P352+P312

IF ON SKIN: Wash with plenty of soap and water. 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.

P308+P313

IF exposed or concerned: Get medical advice/attention.

P337+P313

If eye irritation persists: Get medical advice/attention.

P370+P378

In case of fire: Use CO<sub>2</sub>, foam or extinguishing powder for extinction.

P403+P233

Store in a well-ventilated place. Keep container tightly closed.

P405

Store locked up.

P501

Dispose of contents/container to in accordance with local regulation

## 2.3 Other hazards

Additional precautionary phrases are located throughout the safety data sheet.

## 3. COMPOSITION, INFORMATION ON INGREDIENTS

3.1 Molecular Formula: C<sub>4</sub>H<sub>7</sub>ClO

Molecular Weight: 106.5508

| Component                    |            | Concentration |
|------------------------------|------------|---------------|
| (S)-4-chloro-1,2-epoxybutane |            |               |
| CAS Number                   | 13067-79-3 | -             |

## 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. Move out of dangerous area.

## If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Continue rinsing eyes during transport to hospital.

**If swallowed**

Do NOT induce vomiting. 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**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

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

No data available

**5. FIRE FIGHTING MEASURES****5.1 Extinguishing media**

Suitable extinguishing media: alcohol-resistant foam, dry chemical or carbon dioxide

Unsuitable extinguishing media: no data

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

In combustion toxic fumes may form.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus.

Wear protective clothing to prevent contact with skin and eyes.

**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas.

Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

Do not attempt to take action without suitable protective clothing.

For personal protection see section 8.

**6.2 Environmental precautions**

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

Alert the neighbourhood to the presence of fumes or gas.

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

Mix with sand or vermiculite. Sweep up and shovel. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

**6.4 Reference to other sections**

For disposal see section 13.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Wash hands thoroughly after handling.  
Ensure there is sufficient ventilation of the area.  
Normal measures for preventive fire protection. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated area. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

### 7.3 Specific end use(s)

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

### 8.1 Control parameters

Components with workplace control parameters  
Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

Appropriate engineering controls  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

#### Personal protective equipment

##### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

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

Complete suit protecting against chemicals, 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 risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) 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).

##### Control of environmental exposure

Do not let product enter drains.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                           |                   |
|---------------------------|-------------------|
| Appearance                | No data available |
| Boiling Point             | No data available |
| Melting Point             | No data available |
| Odour                     | No data available |
| Odour Threshold           | No data available |
| pH                        | No data available |
| Flash point               | No data available |
| Evaporation rate          | No data available |
| Vapour pressure           | No data available |
| Vapor Density             | No data available |
| Relative density          | No data available |
| Solubility in water       | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Viscosity No Data         | No data available |
| Explosive properties      | No data available |
| Oxidizing properties      | No data available |

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

No data available

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

Carbon monoxide, carbon dioxide, hydrogen chloride.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

|                                   |                   |
|-----------------------------------|-------------------|
| Acute Toxicity                    | No data available |
| Skin corrosion/irritation         | No data available |
| Serious eye Damage/irritation     | No data available |
| Respiratory or skin sensitisation | 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 |

Product Url: [www.ambeed.com/products/13067-79-3.html](http://www.ambeed.com/products/13067-79-3.html)

For Laboratory Use Only !

**11.2 Additional**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

**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 Results of PBT and vPvB assessment**

No data available

**12.6 Other adverse effects**

No data available

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods****Disposal Operations**

Consult state, local or national regulations for proper disposal. Hand over to authorised disposal company as hazardous waste.

**Disposal of Packaging**

Disposal must be made according to official regulations.

**14. TRANSPORT INFORMATION****TDG (Canada)**

UN number: 2810

Class: 6.1

Packing group: III

Proper shipping name: Toxic, liquids, organic, n.o.s.

Environmental hazards:

**IMDG**

UN number: 2810

Class: 6.1

Packing group: III

Proper shipping name: Toxic, liquids, organic, n.o.s.

Environmental hazards:

**IATA**

UN number: 2810

Class: 6.1

Packing group: III

Proper shipping name: Toxic, liquids, organic, n.o.s.

Environmental hazards:

### 15. REGULATORY INFORMATION

Safety, health and environmental and national regulations:

Product is not subject to any additional regulations or provisions

#### California Proposition 65

Not listed on California's listing of known or potential carcinogens.

Safety Assessment

No Chemical Safety Assessment

### 16. OTHER INFORMATION

The reference company name of written contents

Company: Ambeed, Inc.

Tel: 1-352-323-3500 Fax: 1-352-323-3500 E-mail: [sales@ambeed.com](mailto:sales@ambeed.com)

Address: 3205 N WILKE RD, STE 3205-125, Arlington Hts, IL 60004, USA

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

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