

## SAFETY DATA SHEET

Version 4.5  
Revision Date 06/02/2016  
Print Date 11/10/2018

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1. PRODUCT AND COMPANY IDENTIFICATION

## 1.1 Product identifiers

Product name : Allyl glycidyl ether

Product Number : A32608  
Brand : Aldrich  
Index-No. : 603-038-00-1

CAS-No. : 106-92-3

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

Identified uses : Laboratory chemicals, Synthesis of substances

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

Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052

## 1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

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2. HAZARDS IDENTIFICATION

## 2.1 Classification of the substance or mixture

**GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 3), H226  
Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 3), H331  
Skin irritation (Category 2), H315  
Serious eye damage (Category 1), H318  
Skin sensitisation (Category 1), H317  
Germ cell mutagenicity (Category 2), H341  
Carcinogenicity (Category 2), H351  
Reproductive toxicity (Category 2), H361  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Acute aquatic toxicity (Category 3), H402  
Chronic aquatic toxicity (Category 3), H412

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

## 2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word : Danger

Hazard statement(s)  
H226 : Flammable liquid and vapour.  
H302 : Harmful if swallowed.

|                            |  |
|----------------------------|--|
| H315                       | Causes skin irritation.  |
| H317                       | May cause an allergic skin reaction.   |
| H318                       | Causes serious eye damage.   |
| H331                       | Toxic if inhaled.  |
| H335                       | May cause respiratory irritation.  |
| H341                       | Suspected of causing genetic defects.  |
| H351                       | Suspected of causing cancer.   |
| H361                       | Suspected of damaging fertility or the unborn child.   |
| H412                       | Harmful to aquatic life with long lasting effects.   |
| Precautionary statement(s) |  |
| 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.   |
| P233                       | Keep container tightly closed.   |
| P240                       | Ground/bond container and receiving equipment.   |
| P241                       | Use explosion-proof electrical/ ventilating/ lighting/ equipment.  |
| P242                       | Use only non-sparking tools.   |
| P243                       | Take precautionary measures against static discharge.  |
| P261                       | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.   |
| P264                       | Wash skin thoroughly after handling.   |
| P270                       | Do not eat, drink or smoke when using this product.  |
| P271                       | Use only outdoors or in a well-ventilated area.  |
| P272                       | Contaminated work clothing should not be allowed out of the workplace.   |
| P273                       | Avoid release to the environment.  |
| P280                       | Wear protective gloves/ protective clothing/ eye protection/ face protection.  |
| P303 + P361 + P353         | IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.                     |
| P304 + P340                | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |
| P305 + P351 + P338         | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310                       | Immediately call a POISON CENTER/doctor.   |
| P321                       | Specific treatment (see supplemental first aid instructions on this label).  |
| P330                       | Rinse mouth.   |
| P333 + P313                | If skin irritation or rash occurs: Get medical advice/ attention.  |
| P362                       | Take off contaminated clothing and wash before reuse.  |
| P370 + P378                | In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  |
| P403 + P233                | Store in a well-ventilated place. Keep container tightly closed.   |
| P403 + P235                | Store in a well-ventilated place. Keep cool.   |
| P405                       | Store locked up.   |
| P501                       | Dispose of contents/ container to an approved waste disposal plant.  |

## 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

|                  |   |  |
|------------------|---|--|
| Synonyms         | : | Allyl 2,3-epoxypropyl ether<br>1-Allyloxy-2,3-epoxypropane |
| Formula          | : | C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>              |
| Molecular weight | : | 114.14 g/mol   |
| CAS-No.          | : | 106-92-3   |
| EC-No.           | : | 203-442-4  |
| Index-No.        | : | 603-038-00-1   |

### Hazardous components

| Component | Classification | Concentration |
|-----------|----------------|---------------|
|-----------|----------------|---------------|

| Allyl glycidyl ether |  |          |
|----------------------|--|----------|
|                      | Flam. Liq. 3; Acute Tox. 4;<br>Acute Tox. 3; Skin Irrit. 2; Eye<br>Dam. 1; Skin Sens. 1; Muta. 2;<br>Carc. 2; Repr. 2; STOT SE 3;<br>Aquatic Acute 3; Aquatic<br>Chronic 3; H226, H302, H315,<br>H317, H318, H331, H335,<br>H341, H351, H361, H412 | <= 100 % |

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

## 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

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.

#### 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. FIREFIGHTING MEASURES

### 5.1 Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

No data available

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

## 6. ACCIDENTAL RELEASE MEASURES

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

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. 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. Discharge into the environment must be avoided.

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

Contain spillage, and then 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.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.  
Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.  
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 place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Store under inert gas.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

| Component            | CAS-No.  | Value   | Control parameters                           | Basis  |
|----------------------|----------|---|--|--|
| Allyl glycidyl ether | 106-92-3 | STEL  | 10 ppm<br>44 mg/m <sup>3</sup>               | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|                      |          | C   | 10 ppm<br>45 mg/m <sup>3</sup>               | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                      | Remarks  | The value in mg/m <sup>3</sup> is approximate.<br>Ceiling limit is to be determined from breathing-zone air samples.            |  |  |
|                      |          | C   | 10.000000 ppm<br>45.000000 mg/m <sup>3</sup> | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
|                      |          | The value in mg/m <sup>3</sup> is approximate.<br>Ceiling limit is to be determined from breathing-zone air samples.            |  |  |
|                      |          | TWA   | 1.000000 ppm                                 | USA. ACGIH Threshold Limit Values (TLV)  |
|                      |          | Upper Respiratory Tract irritation<br>Eye irritation<br>Dermatitis<br>Skin irritation<br>Not classifiable as a human carcinogen |  |  |
|                      |          | TWA   | 1 ppm  | USA. ACGIH Threshold Limit Values (TLV)  |
|                      |          | Upper Respiratory Tract irritation<br>Eye irritation<br>Dermatitis<br>Skin irritation<br>Not classifiable as a human carcinogen |  |  |
|                      |          | TWA   | 5 ppm<br>22 mg/m <sup>3</sup>                | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000                    |
|                      |          | TWA   | 5.000000 ppm<br>22.000000 mg/m <sup>3</sup>  | USA. NIOSH Recommended Exposure Limits   |
|                      |          | Potential for dermal absorption   |  |  |

|  |  |                                 |                                  |   |
|--|--|---------------------------------|----------------------------------|---|
|  |  | ST                              | 10.000000 ppm<br>44.000000 mg/m3 | USA. NIOSH Recommended Exposure Limits  |
|  |  | Potential for dermal absorption |                                  |   |
|  |  | PEL                             | 0.2 ppm<br>0.93 mg/m3            | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|  |  | Skin                            |                                  |   |

## 8.2 Exposure controls

### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

### Personal protective equipment

#### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). 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.

#### Full contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

#### Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 480 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., 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 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).

#### Control of environmental exposure

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |               |   |
|---------------|---|
| a) Appearance | Form: clear, liquid<br>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 range      | 154 °C (309 °F) - lit.                   |
| g) Flash point                                  | 57 °C (135 °F) - 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                               | 3.94 - (Air = 1.0)                       |
| m) Relative density                             | 0.962 g/cm <sup>3</sup> at 25 °C (77 °F) |
| n) Water solubility                             | No data available                        |
| o) Partition coefficient: n-octanol/water       | No data available                        |
| p) Auto-ignition temperature                    | No data available                        |
| q) Decomposition temperature                    | No data available                        |
| r) Viscosity                                    | No data available                        |
| s) Explosive properties                         | No data available                        |
| t) Oxidizing properties                         | No data available                        |

## 9.2 Other safety information

Relative vapour density 3.94 - (Air = 1.0)

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## 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

Heat, flames and sparks.

### 10.5 Incompatible materials

Strong oxidizing agents

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - No data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 1,600 mg/kg

Remarks: Brain and Coverings:Recordings from specific areas of CNS. Behavioral:Change in motor activity (specific assay). Behavioral:Ataxia.

LC50 Inhalation - Rat - 8 h - 670 ppm

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Corneal damage. Lungs, Thorax, or Respiration:Acute pulmonary edema. Gastrointestinal:Changes in structure or function of salivary glands.

LD50 Dermal - Rabbit - 2,550 mg/kg

No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: Skin irritation - 3 h

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Severe eye irritation - 24 h

#### Respiratory or skin sensitisation

##### Germ cell mutagenicity

Laboratory experiments have shown mutagenic effects.

In vitro tests showed mutagenic effects

Hamster

ovary

Sister chromatid exchange

#### Carcinogenicity

Carcinogenicity - Rat - Inhalation

Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Olfaction:Tumors.

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Reproductive toxicity

Suspected human reproductive toxicant

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

#### 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

#### Additional Information

RTECS: RR0875000

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

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish LC50 - Carassius auratus (goldfish) - 30.0 mg/l - 96.0 h

### 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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life with long lasting effects.

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

### DOT (US)

UN number: 2219 Class: 3 Packing group: III

Proper shipping name: Allyl glycidyl ether

Poison Inhalation Hazard: No

### IMDG

UN number: 2219 Class: 3 Packing group: III EMS-No: F-E, S-D

Proper shipping name: ALLYL GLYCIDYL ETHER

### IATA

UN number: 2219 Class: 3 Packing group: III

Proper shipping name: Allyl glycidyl ether

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## 15. REGULATORY INFORMATION

### SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard



**Massachusetts Right To Know Components**

|                      |                     |                             |
|----------------------|---------------------|-----------------------------|
| Allyl glycidyl ether | CAS-No.<br>106-92-3 | Revision Date<br>1993-04-24 |
|----------------------|---------------------|-----------------------------|

**Pennsylvania Right To Know Components**

|                      |                     |                             |
|----------------------|---------------------|-----------------------------|
| Allyl glycidyl ether | CAS-No.<br>106-92-3 | Revision Date<br>1993-04-24 |
|----------------------|---------------------|-----------------------------|

**New Jersey Right To Know Components**

|                      |                     |                             |
|----------------------|---------------------|-----------------------------|
| Allyl glycidyl ether | CAS-No.<br>106-92-3 | Revision Date<br>1993-04-24 |
|----------------------|---------------------|-----------------------------|

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

|                 |  |
|-----------------|--|
| Acute Tox.      | Acute toxicity                                       |
| Aquatic Acute   | Acute aquatic toxicity                               |
| Aquatic Chronic | Chronic aquatic toxicity                             |
| Carc.           | Carcinogenicity                                      |
| Eye Dam.        | Serious eye damage                                   |
| Flam. Liq.      | Flammable liquids                                    |
| H226            | Flammable liquid and vapour.                         |
| H302            | Harmful if swallowed.                                |
| H315            | Causes skin irritation.                              |
| H317            | May cause an allergic skin reaction.                 |
| H318            | Causes serious eye damage.                           |
| H331            | Toxic if inhaled.                                    |
| H335            | May cause respiratory irritation.                    |
| H341            | Suspected of causing genetic defects.                |
| H351            | Suspected of causing cancer.                         |
| H361            | Suspected of damaging fertility or the unborn child. |
| H402            | Harmful to aquatic life.                             |

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 2 |
| Chronic Health Hazard: | * |
| Flammability:          | 2 |
| Physical Hazard        | 0 |

**NFPA Rating**

|                    |   |
|--------------------|---|
| Health hazard:     | 2 |
| Fire Hazard:       | 2 |
| Reactivity Hazard: | 0 |

**Further information**

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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