

## Chemical Safety Data Sheet MSDS / SDS

## Allyl glycidyl ether

Revision Date:2025-01-11 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Allyl glycidyl ether  
CBnumber : CB3852688  
CAS : 106-92-3  
EINECS Number : 203-442-4  
Synonyms : AGE,allyl

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

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

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.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash hands thoroughly after handling.  
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.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continuerinsing.

P307+P311 IF exposed: call a POISON CENTER or doctor/physician.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

#### **Hazard statements**

H226 Flammable liquid and vapour

H302 Harmful if swallowed

H313 May be harmful in contact with skin

H315 Causes skin irritation

H317 May cause an allergic skin reaction

H318 Causes serious eye damage

H331 Toxic if inhaled

H332 Harmful 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

H370 Causes damage to organs

H372 Causes damage to organs through prolonged or repeated exposure

H402 Harmful to aquatic life

H412 Harmful to aquatic life with long lasting effects

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## SECTION 3: Composition/information on ingredients

### **Substance**

Product name	: Allyl glycidyl ether
Synonyms	: AGE, allyl
CAS	: 106-92-3
EC number	: 203-442-4
MF	: C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>
MW	: 114.14

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## SECTION 4: First aid measures

### **Description of first aid measures**

#### **General advice**

Consult a physician. Show this material 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. 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.

### **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

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

No data available

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## SECTION 5: Firefighting measures

### **Extinguishing media**

#### **Suitable extinguishing media**

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

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

Carbon oxides

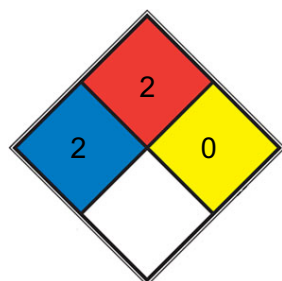
### **Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **Further information**

Use water spray to cool unopened containers.

### **NFPA 704**



**HEALTH 2** Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. [diethyl ether](#), ammonium phosphate, iodine)

**FIRE 2** Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur and multiple finely divided suspended solids that do not require heating before ignition can occur. Flash point between 37.8 and 93.3 °C (100 and 200 °F). (e.g. diesel fuel, [sulfur](#))

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☒ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, [N2](#))

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☐ SPEC.

☐ HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid breathing vapors, mist or gas. 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.

For personal protection see section 8.

### 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.

### 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).

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor 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.

### Conditions for safe storage, including any incompatibilities

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.

Store under inert gas.

### Specific end use(s)

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

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## SECTION 8: Exposure controls/personal protection

### control parameter

### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

## 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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

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 EC 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.

#### Exposure limits

NIOSH REL: TWA 5 ppm (22 mg/m<sup>3</sup>), STEL 10 ppm (44 mg/m<sup>3</sup>), IDLH 50 ppm; OSHA PEL: ceiling 10 ppm; ACGIH TLV: TWA 5 ppm, STEL 10 ppm.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	colorless clear, liquid
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Odour	No data available
Odour Threshold	No data available
pH	No data available
Melting point/freezing point	-100 °C
Initial boiling point and boiling range	154 °C - lit.
Flash point	57 °C - closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	No data available
Vapour pressure	4.7 mm Hg ( 25 °C)
Vapour density	3,94 - (Air = 1.0)
Relative density	0,962 g/cm <sup>3</sup> at 25 °C
Water solubility	50 g/L (20°C)
Partition coefficient: n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Henry's Law Constant	(x 10 <sup>-6</sup> atm·m <sup>3</sup> /mol): 3.83 at 20 °C (approximate - calculated from water solubility and vapor pressure)

### Other safety information

Relative vapor density

3,94 - (Air = 1.0)

## SECTION 10: Stability and reactivity

### Reactivity

No data available

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

No data available

### Conditions to avoid

Heat, flames and sparks.

### Incompatible materials

Strong oxidizing agents

## 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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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - male - 1.600 mg/kg

Remarks: (ECHA)

LC50 Inhalation - Rat - male - 4 h - 2,56 mg/l Remarks: (ECHA)

LD50 Dermal - Rabbit - 2.550 mg/kg Remarks: (ECHA)

#### Skin corrosion/irritation

Skin - Rabbit

Result: Irritating to skin. - 24 h Remarks: (RTECS)

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Serious eye damage/eye irritation

Eyes - Rabbit

Result: Causes serious eye damage. - 24 h Remarks: (RTECS)

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Respiratory or skin sensitization

May cause allergic skin reaction. Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

#### Germ cell mutagenicity

Suspected of causing genetic defects. Ames test

Salmonella typhimurium Result: positive

Chromosome aberration test in vitro Chinese hamster ovary cells

Result: positive

sister chromatid exchange assay Chinese hamster ovary cells Result: positive

Mouse - male - Bone marrow Result: positive

(ECHA)

#### Carcinogenicity

Suspected of causing cancer.

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

#### Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

#### Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Acute inhalation toxicity - mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract, Inhalation may lead to the formation of oedemas in the respiratory tract., Symptoms may be delayed.

#### 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.

After absorption:

Headache, Nausea, inebriation, somnolence, respiratory arrest, Unconsciousness Damage to:

Kidney, Liver

Possible risk of irreversible effects.

This substance should be handled with particular care.

#### **Toxicity**

LD50 orally in Rabbit: 922 mg/kg LD50 dermal Rabbit 2550 mg/kg

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

static test LC50 - Cyprinus carpio (Carp) - 36 mg/l - 96,0 h (OECD Test Guideline 203)

#### **Toxicity to daphnia and other aquatic invertebrates**

static test EC50 - Daphnia magna (Water flea) - 50 mg/l - 48 h (OECD Test Guideline 202)

#### **Toxicity to algae**

static test ErC50 - Pseudokirchneriella subcapitata - > 79 mg/l - 72 h

(OECD Test Guideline 201)

### **Persistence and degradability**

Biodegradability aerobic - Exposure time 28 d

Result: 5 - 9 % - Not readily biodegradable. (OECD Test Guideline 301D)

Biochemical Oxygen Demand (BOD)

Chemical Oxygen Demand (COD)

Theoretical oxygen demand

60 mg/g

Remarks: (External MSDS)

1.990 mg/g

Remarks: (External MSDS)

2.100 mg/g Remarks: (Lit.)

Ratio BOD/ThBOD 2,8 %

Remarks: (Lit.)

### **Bioaccumulative potential**

No data available



## Mobility in soil

No data available

## Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## Toxics Screening Level

The initial risk screening level (IRSL) for allyl glycidyl ether (AGE) is 0.1 µg/m<sup>3</sup> based on an annual averaging time.

## Other adverse effects

Harmful to aquatic life with long lasting effects.

Additional ecological information

Discharge into the environment must be avoided.

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# SECTION 13: Disposal considerations

## 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.

### Incompatibilities

May form explosive mixture with air. Contact with acids or bases may cause explosive polymerization. Contact with oxidizers or amines may cause fire and explosions.

### Waste Disposal

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. All federal, state, and local environmental regulations must be observed.

### Contaminated packaging

Dispose of as unused product.

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# SECTION 14: Transport information

## UN number

ADR/RID: 2219 IMDG: 2219 IATA: 2219

## UN proper shipping name

ADR/RID: ALLYL GLYCIDYL ETHER IMDG: ALLYL GLYCIDYL ETHER

IATA: Allyl glycidyl ether

14.3

Transport hazard class(es)

ADR/RID: 3 IMDG: 3

IATA: 3

14.4	Packaging group	
	ADR/RID: III IMDG: III	IATA: III
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

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

#### Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015: Listed. website: <https://www.mem.gov.cn/>

#### Measures for Environmental Management of New Chemical Substances

European Inventory of Existing Commercial Chemical Substances (EINECS): Listed. website: <https://echa.europa.eu/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Korea Existing Chemicals List (KECL): Listed. website: <http://ncis.nier.go.kr>

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

New Zealand Inventory of Chemicals (NZIoC): Listed. website: <https://www.epa.govt.nz/>

Vietnam National Chemical Inventory: Listed. website: <https://chemicaldata.gov.vn/>

EC Inventory: Listed.

## SECTION 16: Other information

### Abbreviations and acronyms

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### References

【1】 CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

- 【5】ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- 【6】Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- 【7】HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- 【8】IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- 【9】IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- 【10】Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

## Other Information

Explosive limits are unknown in literature, although the substance is combustible and has a flash point < 61°C. Use of alcoholic beverages enhances the harmful effect. Depending on the degree of exposure, periodic medical examination is suggested. The symptoms of lung oedema often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. The odour warning when the exposure limit value is exceeded is insufficient. Check for peroxides prior to distillation; eliminate if found.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.