

R197



# SIGMA-ALDRICH

Material Safety Data Sheet

Date Printed: 10/11/2004  
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 Version: 1.1

## Section 1 - Product and Company Information

Product Name	Allyl glycidyl ether, 99+%		
Product Number	A32608		
Brand	Aldrich Chemical		
Company	Sigma-Aldrich		
Street Address	3050 Spruce Street		
City, State, Zip, Country	SAINT LOUIS, MO 63103 US		
Technical Phone:	314 771 5765		
Fax:	800 325 5052	Emergency Phone:	414 273 3850 Ext. 5996

## Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 311	EC no	Annex I/II/III Number
ALLYL GLYCIDYL ETHER	106-92-3	No	203-412-4	603-038-00-1

Formula: C6H10O2  
 Synonyms: AGE (OSHA), Allylglycidäther (Italian), 1-Allyloxi-2,3-epoxypropano (Italian), Allyl 2,3-epoxypropyl ether, Allylglycidäther (German), Allyl glycidyl ether (ACGIH/OSHA), 1-Allyloxy-2,3-epoxypropan (Dutch), 1-Allyloxy-2,3-epoxypropan (German), 1-(Allyloxy)-2,3-epoxypropane, 1,2-Epoxy-3-allyloxypropane, Ether, allyl 2,3-epoxypropyl, Glycidyl allyl ether, NCI-C56666, Oxide d'allyle et de glycidyle (French), Propane, 1-(allyloxy)-2,3-epoxy-

## Section 3 - Hazards Identification

### Emergency Overview

Harmful.  
 Harmful by inhalation and if swallowed. Irritating to respiratory system and skin. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes. May cause sensitization by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility. Possible risk of irreversible effects.  
 Combustible. Target organ(s): Central nervous system, blood.

HMS Rating  
 Health: 3\*      Flammability: 2      Reactivity: 0

NFPA Rating  
 Health: 3      Flammability: 2      Reactivity: 0

\*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

## Section 4 - First Aid Measures

### Oral Exposure



Packing Group: Packing Group III  
 Hazard Label: Flammable liquid  
 R H: R22 R11

## IATA

Proper Shipping Name: Methyl glycidyl ether  
 IATA UN Number: 2219  
 Hazard Class: 3  
 Packing Group: III

## Section 15 - Regulatory Information

## EU Directives Classification

Symbol of Danger: Xn

Indication of Danger

Harmful.

Risk Statements R 10 20/22 37/38 40 41 43 52/53 62 68

Flammable. Harmful by inhalation and if swallowed. Irritating to respiratory system and skin. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes. May cause sensitization by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility. Possible risk of irreversible effects.

Safety Statements S 24/25 26 36/37/39 61

Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. Avoid release to the environment. Refer to special instructions/safety data sheets.

## US Classification and Label Text

Indication of Danger

Harmful.

Risk Statements

Harmful by inhalation and if swallowed. Irritating to respiratory system and skin. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes. May cause sensitization by skin contact. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of impaired fertility. Possible risk of irreversible effects.

Safety Statements

Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements

Combustible. Target organs: Central nervous system, Blood.

## United States Regulatory Information

SARA Listed: No

TSCA Inventory Item: Yes

## Canada Regulatory Information

WHMIS Classification

This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: Yes

NDSL: No

## Section 16 - Other Information

## Disclaimer

For R&D use only. Not for drug, household or other uses.

## Warranty

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 Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

**Inhalation Exposure**

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

**Dermal Exposure**

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

**Eye Exposure**

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

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**Section 5 - Fire Fighting Measures**

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Flash Point: 134.6 °F 57 °C

Autoignition Temp: N/A

**Extinguishing Media****Suitable**

Carbon dioxide, dry chemical powder, or appropriate foam. Water spray.

**Firefighting****Protective Equipment**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

**Specific Hazard(s)**

Combustible liquid. Emits toxic fumes under fire conditions.

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**Section 6 - Accidental Release Measures**

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**Procedure to be Followed in Case of Leak or Spill**

Evacuate area.

**Procedure(s) of Personal Precaution(s)**

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

**Methods for Cleaning Up**

Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

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**Section 7 - Handling and Storage**

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**Handling****User Exposure**

Avoid prolonged or repeated exposure. Do not breathe vapor. Avoid contact with eyes, skin, and clothing.

**Storage****Suitable**

Keep tightly closed. Keep away from heat and open flame. Store in a cool dry place.

**Special Requirements**

Store under inert gas.

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**Section 8 - Exposure Controls / PPE**

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**Engineering Controls**

Safety shower and eye bath. Mechanical exhaust required.

**Personal Protective Equipment****Respiratory**

Government approved respirator.



Hand  
Compatible chemical-resistant gloves.  
Eye  
Chemical safety goggles.

General Hygiene Measures  
Wash thoroughly after handling.

Exposure Limits, RTECS

Country	Source	Type	Value
USA	ACGIH	TWA	1 PPM
USA	MSHA Standard air	TWA	5 PPM (22 MG/M3)
USA	OSHA	PEL	CL 10 PPM (45 MG/M3)
New Zealand	OEL		
Remarks: check ACGIH TLV			
USA	NIOSH	TWASTEL	5 PPM 10 PPM (50)

Section 9 - Physical/Chemical Properties

Appearance

Color  
Colorless

Form  
Clear liquid

Molecular Weight: 114.14 AMU

Property Value At Temperature or Pressure

pH	N/A	
BP/ BP Range	50 - 52 °C	15 mmHg
MP/ MP Range	N/A	
Freezing Point	N/A	
Vapor Pressure	N/A	
Vapor Density	3.0 g/l	
Saturated Vapor Conc.	N/A	
SG Density	0.97 g/cm3	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile %	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point °F	134.6 °F	Method: closed cup
Flash Point °C	57 °C	Method: closed cup
Explosion Limits	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Refractive Index	1.434	



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Solubility N/A

N/A = not available

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#### Section 10 - Stability and Reactivity

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##### Stability

Stable

Stable

Materials to Avoid

Strong oxidizing agents.

##### Hazardous Decomposition Products

Hazardous Decomposition Products

Carbon monoxide, Carbon dioxide.

##### Hazardous Polymerization

Hazardous Polymerization

Will not occur.

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#### Section 11 - Toxicological Information

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##### Route of Exposure

Skin Contact

Causes skin irritation.

Skin Absorption

May be harmful if absorbed through the skin.

Eye Contact

Causes severe eye irritation.

Inhalation

Harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.

Ingestion

Harmful if swallowed.

##### Sensitization

Skin

May cause allergic skin reaction.

##### Target Organ(s) or System(s)

Central nervous system, Blood, Testes, Adrenal gland.

##### Signs and Symptoms of Exposure

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

RTECS Number: RR0875000

##### Toxicity Data

Oral - Rat: 1600 mg/kg (LD50)

Remarks: Brain and Coverings: Recordings from specific areas of CNS

Behavioral: Change in motor activity (specific assay).

Behavioral: Axia

Inhalation - Rat: 670 ppm (LC50)

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.

Oral - Mouse: 390 mg/kg (LD50)

Remarks: Brain and Coverings: Recordings from specific areas of CNS

Behavioral: Somnolence (general depressed activity).

Behavioral: Axia





Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Lacrimation  
Lungs, Thorax, or Respiration: Dyspnea.  
Gastrointestinal: Changes in structure or function of salivary glands.

Skin - Rabbit: 2550 mg/kg (LD50)

**Irritation Data**

Skin - Rabbit: 485 mg 3D  
Remarks: Moderate irritation effect

Skin - Rabbit: 2 mg 24H  
Remarks: Severe irritation effect

Eyes - Rabbit: 97 mg  
Remarks: Severe irritation effect

Eyes - Rabbit: 0.75 mg 24H  
Remarks: Severe irritation effect

**Chronic Exposure - Carcinogen**

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

Rat - Inhalation: 10 PPM 6H 2Y 1

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

Mouse - Inhalation: 10 PPM 6H 2Y 1

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

**NTP Carcinogen List**

Rating	Species	Route
Some evidence.	Mouse	Inhalation
Equivocal evidence.	Rat	Inhalation

**ACGIH Carcinogen List**

Rating  
A4

**Chronic Exposure - Mutagen**

Species	Dose	Cell Type	Mutation test
Result: Laboratory experiments have shown mutagenic effects.			
Hamster	64800 UG/L	ovary	Cytogenetic analysis
Hamster	3300 UG/L	ovary	Sister chromatid exchange
Hamster	625 UMOL/L	lung	Sister chromatid exchange

**Chronic Exposure - Reproductive Hazard**

Result: Overexposure may cause reproductive disorders based on tests with laboratory animals.

**Section 12 - Ecological Information**

No data available.

**Section 13 - Disposal Considerations**

Appropriate Method of Disposal of Substance or Preparation  
This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.  
Observe all federal, state, and local environmental regulations.

**Section 14 - Transport Information**

**DOT**

Proper Shipping Name: Allyl glycidyl ether  
UN#: 2219

