

Name:	<b>Allyl glycidyl ether 99+ % Material Safety Data Sheet</b>
Synonym:	1-Allyloxy-2,3-epoxypropane; AGE; Allyl 2,3-epoxypropyl ether; Allylglycidaether; 1,2-Epoxy-3-allyloxypropane; Ether, allyl 2,3-epoxypropyl; Glycidyl allyl ether; Propane, 1-(allyloxy)-2,3-epoxy-; ((Propenyloxy)methyl) oxirane
CAS:	106-92-3

### ➔ Section 1 - Chemical Product

MSDS Name: Allyl glycidyl ether 99+ %

Synonym: 1-Allyloxy-2,3-epoxypropane; AGE; Allyl 2,3-epoxypropyl ether; Allylglycidaether; 1,2-Epoxy-3-allyloxypropane; Ether, allyl 2,3-epoxypropyl; Glycidyl allyl ether; Propane, 1-(allyloxy)-2,3-epoxy-; ((Propenyloxy)methyl) oxirane.

### ➔ Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS

CAS#	Chemical Name	content	EINECS#
106-92-3	Allyl glycidyl ether	> 99	203-442-4

Hazard Symbols: XN

Risk Phrases: 10 20/22 37/38 40 41 43 62 52/53 68

### ➔ Section 3 - HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

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. Possible risk of impaired fertility. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of irreversible effects.

#### Potential Health Effects

##### Eye:

Causes severe eye irritation. May cause reversible inflammation and corneal injury with opacity.

##### Skin:

Causes severe skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May be harmful if absorbed through the skin.

Ingestion:

May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May be harmful if swallowed.

May cause central nervous system depression.

Inhalation:

Inhalation may be fatal as a result of spasm, inflammation, edema of the larynx and bronchi, chemical pneumonitis and pulmonary edema.

Aspiration may lead to pulmonary edema. May cause burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation at high concentrations may cause CNS depression and asphyxiation. Harmful if inhaled.

Chronic:

Repeated exposure may cause sensitization dermatitis.

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#### ➔ **Section 4 - FIRST AID MEASURES**

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:

Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:

Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation:

Get medical aid immediately. Remove from exposure and move to fresh air immediately. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician:

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## ➔ **Section 5 - FIRE FIGHTING MEASURES**

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution. Vapors are heavier than air and may travel to a source of ignition and flash back.

Vapors can spread along the ground and collect in low or confined areas.

Extinguishing Media:

Use water spray to cool fire-exposed containers. Water may be ineffective. Do NOT use straight streams of water. In case of fire, use carbon dioxide, dry chemical powder or appropriate foam.

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## ➔ **Section 6 - ACCIDENTAL RELEASE MEASURES**

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Absorb spill using an absorbent, non-combustible material such as earth, sand, or vermiculite. Do not use combustible materials such as sawdust. Use a spark-proof tool. Provide ventilation.

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## ➔ **Section 7 - HANDLING and STORAGE**

Handling:

Wash thoroughly after handling. Use only in a well-ventilated area.

Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame.

Use and store under nitrogen. Use only in a chemical fume hood. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Do not breathe vapor.

Storage:

Keep away from heat, sparks, and flame. Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

Flammables-area. Deep freeze (below -20C).

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## ➔ **Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

Engineering Controls:

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits CAS# 106-92-3: United States OSHA: ; 10 ppm Ceiling; 45 mg/m<sup>3</sup> Ceiling Belgium - TWA: 5 ppm VLE; 23 mg/m<sup>3</sup> VLE Belgium - STEL: 10 ppm VLE; 48 mg/m<sup>3</sup> VLE France - VME: 5 ppm VME; 22 mg/m<sup>3</sup> VME Malaysia: 1 ppm TWA; 4.6 mg/m<sup>3</sup> TWA Netherlands: 0.1 ppm MAC; 0.5 mg/m<sup>3</sup> MAC Spain: 1 ppm VLA-ED; 4.7 mg/m<sup>3</sup> VLA-ED Personal Protective Equipment Eyes: Wear chemical splash goggles and face shield.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

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## ➔ **Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Liquid

Color: clear, colorless

Odor: characteristic odor - pleasant odor

pH: Not available.

Vapor Pressure: 4.7 mm Hg @ 25 deg C

Viscosity: Not available.

Boiling Point: 154 deg C @ 760 mmHg

Freezing/Melting Point: (forms glass) -100 deg C

Autoignition Temperature: Not available.

Flash Point: 48 deg C ( 118.40 deg F)

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature: Not available.

Solubility in water: 14.1% in water slightly soluble

Specific Gravity/Density: .9620 g/cm<sup>3</sup>

Molecular Formula: C<sub>6</sub>H<sub>10</sub>O<sub>2</sub>

Molecular Weight: 114.14



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## ➔ **Section 10 - STABILITY AND REACTIVITY**

Chemical Stability:

Stable under normal temperatures and pressures.

Conditions to Avoid:

Ignition sources, excess heat.

Incompatibilities with Other Materials:

Oxidizing agents, acids, bases.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, acrid smoke and fumes.

Hazardous Polymerization: Has not been reported.

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## ➔ Section 11 - TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 106-92-3: RR0875000 LD50/LC50:

CAS# 106-92-3: Draize test, rabbit, eye: 97 mg Severe; Draize test, rabbit, eye: 750 ug/24H Severe; Draize test, rabbit, skin: 485 mg/3D Moderate; Draize test, rabbit, skin: 2 mg/24H Severe; Inhalation, mouse: LC50 = 270 ppm/4H; Inhalation, rat: LC50 = 670 ppm/8H; Oral, mouse: LD50 = 390 mg/kg; Oral, rat: LD50 = 1600 mg/kg; Skin, rabbit: LD50 = 2550 mg/kg.

Carcinogenicity:

Allyl glycidyl ether - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

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## ➔ Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity:

Fish, Goldfish: LD50 = 78 mg/L/24H. (Conditions of bioassay not specified). Fish, Goldfish: LD50 = 30 mg/L/96H. (Conditions of bioassay not specified).

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## ➔ Section 13 - DISPOSAL CONSIDERATIONS

Dispose of in a manner consistent with federal, state, and local regulations.

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## ➔ Section 14 - TRANSPORT INFORMATION

IATA

Shipping Name: ALLYL GLYCIDYL ETHER

Hazard Class: 3

UN Number: 2219

Packing Group: III

IMO

Shipping Name: ALLYL GLYCIDYL ETHER

Hazard Class: 3.3

UN Number: 2219

Packing Group: III

RID/ADR

Shipping Name: ALLYL GLYCIDYL ETHER

Hazard Class: 3

UN Number: 2219

Packing group: III

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➔ **Section 15 - REGULATORY INFORMATION**

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XN

Risk Phrases:

R 10 Flammable.

R 20/22 Harmful by inhalation and if swallowed.

R 37/38 Irritating to respiratory system and skin.

R 40 Limited evidence of a carcinogenic effect.

R 41 Risk of serious damage to eyes.

R 43 May cause sensitization by skin contact.

R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R 62 Possible risk of impaired fertility.

R 68 Possible risk of irreversible effects.

Safety Phrases:

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.

S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 106-92-3: 3

Canada

CAS# 106-92-3 is listed on Canada's DSL List.

CAS# 106-92-3 is listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 106-92-3 is listed on the TSCA inventory.

