



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.50

Section 1 - Product and Company Information

Product Name Glutaric dialdehyde, 50 wt. % solution in water
Product Number 340855
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

<u>Substance Name</u>	<u>CAS #</u>	<u>SARA 313</u>	<u>EC no</u>	<u>Annex I Index Number</u>
GLUTARALDEHYDE, 50% AQUEOUS SOLUTION	None	No	203-856-5	605-022-00-X

<u>Ingredient Name</u>	<u>CAS #</u>	<u>Percent</u>	<u>SARA 313</u>
METHANOL	67-56-1	0.500 %	Yes
GLUTARALDEHYDE	111-30-8	50.000 %	No
WATER	7732-18-5	49.500 %	No

Formula CSH8O2
Synonyms

Section 3 - Hazards Identification

Emergency Overview

Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment.
Toxic if swallowed. Very toxic by inhalation. Causes burns. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms.

Toxic if absorbed through skin. Target organ(s): Nerves. Heart.

HMIS Rating

Health: 3* Flammability: 0 Reactivity: 1

NFPA Rating

Health: 4 Flammability: 0 Reactivity: 1

*additional chronic hazards present.

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

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

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.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media

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

Firefighting

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

Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

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.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

Storage

Suitable

Store under inert gas. Keep tightly closed.

Special Requirements

Store under inert gas. Air sensitive.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use only in a chemical fume hood.

Personal Protective Equipment

Respiratory

Government approved respirator.

Hand

Compatible chemical-resistant gloves.

Eye

Chemical safety goggles.

Other

Faceshield (8-inch minimum).

General Hygiene Measures

Remove and wash contaminated clothing promptly. Discard contaminated shoes. Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance	Color
Physical State Clear liquid	Colorless

Molecular Weight: 100.12 AMU

Property **Value** **At Temperature or Pressure**

pH	N/A	
BP/BP Range	101 °C	760 mmHg
MP/MP Range	-6 °C	
Freezing Point	N/A	
Vapor Pressure	15 mmHg	20 °C
Vapor Density	1.05 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	1.106 g/cm ³	
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	N/A	
Flash Point °C	N/A	
Explosion Limits	N/A	

Flammability N/A
 Autoignition Temp N/A
 Refractive Index 1.42
 Solubility

Solubility in Water: Soluble.

Other Solvents: SOLUBLE IN ALCOHOL, BENZENE, ETHER.

N/A = not available

Section 10 - Stability and Reactivity**Stability**

Stable

Stable.

Conditions of Instability

May discolor on exposure to air.

Materials to Avoid

Strong acids, Strong bases, Strong oxidizing agents.

Hazardous Decomposition Products**Hazardous Decomposition Products**

Carbon monoxide, Carbon dioxide.

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Hazardous Polymerization
Hazardous Polymerization

Nonhazardous polymerization may occur. Avoid initiators, accelerators, heat, pressure, and contamination.

Section 11 - Toxicological Information**Route of Exposure****Skin Contact**

Causes burns.

Skin Absorption

Harmful if absorbed through skin.

Eye Contact

Causes burns.

Inhalation

Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.

Ingestion

Toxic if swallowed.

Sensitization**Sensitization**

May cause allergic reaction.

Target Organ(s) or System(s)

Central nervous system. Heart.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

RTECS Number: N/A

Section 12 - Ecological Information**Acute Ecotoxicity Tests****Test Type**

EC50 Daphnia

Species

Daphnia magna

Time:

48.0 h

Value:

0.56 - 1 mg/l

Test Type

EC50 Daphnia

Species

Daphnia magna

Time:

48.0 h

Value:

11 - 18 mg/l

Test Type

LC50 Fish

Species

Lepomis macrochirus (Bluegill)

Time:

96.0 h

Value:

7.8 - 32 mg/l

Test Type

LC50 Fish

Species

Cyprinodon variegatus (Sheepshead minnow)

Time:

96.0 h

Value:

22 - 61 mg/l

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Test Type

LC50 Fish

Species

Onchorhynchus mykiss (Rainbow trout)

Time: 96.0 h **Value:** 2.6 - 32 mg/l**Section 13 - Disposal Considerations****Appropriate Method of Disposal of Substance or Preparation**

Contact a licensed professional waste disposal service to dispose of this material.

Dissolve or mix the material with a combustible solvent and burn 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:** Corrosive liquids, toxic, n.o.s.**UN#:** 2922**Class:** 8**Packing Group:** Packing Group II**Hazard Label:** Corrosive**Hazard Label:** Toxic substances.**PIH:** Not PIH**IATA****Proper Shipping Name:** Corrosive liquid, toxic, n.o.s.**IATA UN Number:** 2922**Hazard Class:** 8**Packing Group:** II**Section 15 - Regulatory Information****EU Directives Classification****Symbol of Danger:** T N**Indication of Danger**

Toxic. Dangerous for the environment.

Risk Statements R: 23/25 34 42/43 50

Toxic by inhalation and if swallowed. Causes burns. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms.

Safety Statements S: 26 36/37/39 45 61

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. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US Classification and Label Text**Indication of Danger**

Highly Toxic (USA) Very Toxic (EU). Dangerous for the environment.

Risk Statements

Toxic if swallowed. Very toxic by inhalation. Causes burns. May cause sensitization by inhalation and skin contact. Very toxic to aquatic organisms.

Safety Statements

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of soap-suds. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Avoid release to the environment. Refer to special instructions/safety data sheets.

US Statements

Toxic if absorbed through skin. Target organ(s): Nerves. Heart.

United States Regulatory Information**SARA Listed:** No**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.