

**SIGMA-ALDRICH**

## Material Safety Data Sheet

Version 3.0  
Revision Date 08/21/2009  
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### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 1,2-Dimethoxyethane  
Product Number : E27408  
Brand : Sigma-Aldrich  
Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA  
Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # : (314) 776-6555

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Monoglyme  
Dimethylglycol  
mono-Glyme  
Ethylene glycol dimethyl ether  
Formula :  $C_4H_{10}O_2$   
Molecular Weight : 90.12 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>Ethylene glycol dimethyl ether</b>			
110-71-4	203-794-9	603-031-00-3	-

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable Liquid, Target Organ Effect, Reproductive hazard

##### Target Organs

Liver, Kidney, Blood, Central nervous system, Female reproductive system., Male reproductive system.

#### HMIS Classification

Health Hazard: 1  
Chronic Health Hazard: \*  
Flammability: 3  
Physical hazards: 3

#### NFPA Rating

Health Hazard: 0  
Fire: 3

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Reactivity Hazard: 0

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.  
**Ingestion** May be harmful if swallowed.

### 4. 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. 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.

### 5. FIRE-FIGHTING MEASURES

#### Flammable properties

Flash point 5 °C (41 °F) - closed cup

Ignition temperature 202 °C (396 °F)

#### Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

#### Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Further information

Use water spray to cool unopened containers.

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid breathing vapors, 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.

#### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

#### Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

### 7. HANDLING AND STORAGE

#### Handling

Avoid inhalation of vapour or mist

Keep away from sources of ignition. No smoking. Take measures to prevent the build up of electrostatic charge.

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**Storage**

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 in cool place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Contains no substances with occupational exposure limit values.

**Personal protective equipment****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).

**Hand protection**

Handle with gloves.

**Eye protection**

Face shield and safety glasses

**Skin and body protection**

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

**Hygiene measures**

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

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	liquid, clear
Colour	colourless

**Safety data**

pH	no data available
Melting point	-58 °C (-72 °F) - lit.
Boiling point	85 °C (185 °F) - lit.
Flash point	5 °C (41 °F) - closed cup
Ignition temperature	202 °C (396 °F)
Lower explosion limit	1.6 %(V)
Upper explosion limit	10.4 %(V)
Vapour pressure	64 hPa (48 mm-Hg) at 20 °C (68 °F)
Density	0.867 g/mL at 25 °C (77 °F)
Water solubility	soluble
Relative vapour density	3.11 - (Air = 1.0)

**10. STABILITY AND REACTIVITY****Storage stability**

Stable under recommended storage conditions.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

Oxidizing agents, Strong acids

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

**Hazardous reactions**

Vapours may form explosive mixture with air.

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - mouse - 3,200 mg/kg

**Irritation and corrosion**

no data available

**Sensitisation**

no data available

**Chronic exposure**

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

May cause reproductive disorders.

**Signs and Symptoms of Exposure**

narcois, Exposure to and/or consumption of alcohol may increase toxic effects.

**Potential Health Effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Target Organs</b>	Liver, Kidney, Blood, Central nervous system, Female reproductive system., Male reproductive system.,

**Additional information**

RTECS: KH451000

**12. ECOLOGICAL INFORMATION**

**Elimination Information (persistence and degradability)**

no data available

**Ecotoxicity effects**

no data available

**Further Information on ecology**

no data available

**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

**14. TRANSPORT INFORMATION****DOT (US)**

UN-Number: 2252 Class: 3 Packing group: II  
Proper shipping name: 1,2-Dimethoxyethane  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 2252 Class: 3 Packing group: II EMS-No: F-E, S-D  
Proper shipping name: 1,2-DIMETHOXYETHANE  
Marine pollutant: No

**IATA**

UN-Number: 2252 Class: 3 Packing group: II  
Proper shipping name: 1,2-Dimethoxyethane

**15. REGULATORY INFORMATION****OSHA Hazards**

Flammable Liquid, Target Organ Effect, Reproductive hazard

**DSL Status**

All components of this product are on the Canadian DSL list.

**SARA 302 Components**

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

**SARA 313 Components**

	CAS-No.	Revision Date
Ethylene glycol dimethyl ether	110-71-4	1993-04-24

**SARA 311/312 Hazards**

Fire Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Ethylene glycol dimethyl ether	110-71-4	1993-04-24

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Ethylene glycol dimethyl ether	110-71-4	1993-04-24

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Ethylene glycol dimethyl ether	110-71-4	1993-04-24

**California Prop. 65 Components**

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

**16. OTHER INFORMATION****Further Information**

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