

Material Safety Data Sheet

Version 4.1
Revision Date 02/12/2011
Print Date 02/16/2011

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Diethylene glycol dimethyl ether

Product Number : 281662
Brand : Sigma-Aldrich
Product Use : For laboratory research purposes.

Supplier : Sigma-Aldrich Manufacturer : Sigma-Aldrich Corporation
3050 Spruce Street 3050 Spruce St.
SAINT LOUIS MO 63103 St. Louis, Missouri 63103
USA USA

Telephone : +18003255832
Fax : +18003255052
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid, Target Organ Effect, Teratogen, Reproductive hazard

Target Organs

Female reproductive system., Male reproductive system.

GHS Classification

Flammable liquids (Category 3)

Reproductive toxicity (Category 1B)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H226 Flammable liquid and vapour.
H360 May damage fertility or the unborn child.

Precautionary statement(s)

P201 Obtain special instructions before use.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.

HMIS Classification

Health hazard: 0
Chronic Health Hazard: *
Flammability: 2
Physical hazards: 0

NFPA Rating

Health hazard: 0

Fire: 2
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.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : 2-Methoxyethyl ether
'Diglyme'
Dimethyldiglycol
Bis(2-methoxyethyl) ether

Formula : C₆H₁₄O₃
Molecular Weight : 134.17 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Bis(2-methoxyethyl)ether			
111-96-6	203-924-4	603-139-00-0	-

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

Flush eyes with water as a precaution.

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

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

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

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions: - Carbon oxides

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 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).

7. HANDLING AND STORAGE**Precautions for safe 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.

Conditions for safe 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.

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. 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.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Impervious clothing, 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.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	clear, liquid
Colour	colourless

Safety data

pH	no data available
Melting point/freezing point	Melting point/range: -64 °C (-83 °F) - lit.
Boiling point	162 °C (324 °F) - lit.
Flash point	57 °C (135 °F) - closed cup
Ignition temperature	188 °C (370 °F)
Autoignition temperature	no data available

Lower explosion limit	1.5 %(V)
Upper explosion limit	17.4 %(V)
Vapour pressure	4 hPa (3 mmHg) at 20 °C (68 °F)
Density	0.943 g/cm ³ at 25 °C (77 °F)
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	4.63 - (Air = 1.0)
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

10. STABILITY AND REACTIVITY**Chemical stability**

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION**Acute toxicity****Oral LD50**

LD50 Oral - rat - 5,400 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Ataxia. Respiratory disorder

Inhalation LC50

no data available

Dermal LD50

no data available

Other information on acute toxicity

no data available

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

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.

Reproductive toxicity

Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.

Teratogenicity

Laboratory experiments have shown teratogenic effects.

Presumed human reproductive toxicant

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

no data available

Potential health effects

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

Synergistic effects

no data available

Additional Information

RTECS: KN3339000

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Sigma-Aldrich - 281662
Delivery 0837946488-000010 Purchase Order 40534G

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. 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: 3271 Class: 3 Packing group: III
Proper shipping name: Ethers, n.o.s.
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 3271 Class: 3 Packing group: III EMS-No: F-E, S-D
Proper shipping name: ETHERS, N.O.S. (Bis(2-methoxyethyl)ether)
Marine pollutant: No

IATA

UN number: 3271 Class: 3 Packing group: III
Proper shipping name: Ethers, n.o.s. (Bis(2-methoxyethyl)ether)

15. REGULATORY INFORMATION

OSHA Hazards

Combustible Liquid, Target Organ Effect, Teratogen, Reproductive hazard

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

Bis(2-methoxyethyl)ether	CAS-No. 111-96-6	Revision Date 1995-01-01
--------------------------	---------------------	-----------------------------

SARA 311/312 Hazards

Fire Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Bis(2-methoxyethyl)ether	CAS-No. 111-96-6	Revision Date 1995-01-01
--------------------------	---------------------	-----------------------------

New Jersey Right To Know Components

Bis(2-methoxyethyl)ether	CAS-No. 111-96-6	Revision Date 1995-01-01
--------------------------	---------------------	-----------------------------

California Prop. 65 Components

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

16. OTHER INFORMATION

Further Information

Copyright 2011 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. 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 Co., 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.

Sigma-Aldrich - 281662
Delivery 0837946488-000010 Purchase Order 40534G

