

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product name: Eastman(TM) DM Solvent

Product No.: EAN 907299. 01798-00, P0179800, P0179805, P0179806

Additional identification

Chemical name: 2-(2-methoxyethoxy)ethanol
CAS-No.: 111-77-3

Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Solvent

Uses advised against: None known.

Details of the supplier of the safety data sheet

Manufacturer / Supplier

Eastman Chemical Company
200 South Wilcox Drive
Kingsport, TN 37660-5280 US
+14232292000

Visit our website at www.EASTMAN.com or email emnmsds@eastman.com

Emergency telephone number:

For emergency health, safety, and environmental information, call 1-423-229-4511 or 1-423-229-2000.

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300 or call 423-229-2000.

SECTION 2: Hazards identification

Hazard Classification:

Physical Hazards

Flammable liquids Category 4

Health Hazards

Toxic to reproduction (Oral) Category 2

OSHA Specified Hazards: not applicable

Warning label items including precautionary statement:

Pictogram:



Signal Words: WARNING!**Hazard Statement(s):** H227: Combustible liquid.
H361d: Suspected of damaging the unborn child.**Precautionary Statement:**

Prevention: P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Response: P370+P378: In case of fire; Use water spray, carbon dioxide, dry chemical or alcohol foam for extinction.
P308+P313: IF exposed or concerned: Get medical advice/attention.

Storage: P403+P235: Store in a well-ventilated place. Keep cool.
P405: Store locked up.

Hazard(s) not otherwise classified (HNOC): None known.**SECTION 3: Composition/information on ingredients****Substances / Mixtures****General information:**

Chemical name	Concentration	Additional identification	Notes
diethylene glycol monomethyl ether	100%	CAS-No.: 111-77-3	

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

This substance has workplace exposure limit(s).

SECTION 4: First aid measures**Description of first aid measures****Inhalation:** Move to fresh air. Treat symptomatically. Get medical attention if symptoms persist.**Eye contact:** Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. In case of irritation from airborne exposure, move to fresh air. Get medical attention if symptoms persist.**Skin Contact:** Wash with soap and water. Get medical attention if symptoms occur.**Ingestion:** Seek medical advice.**Most important symptoms and effects, both acute and delayed:** Symptoms may be delayed.**Indication of any immediate medical attention and special treatment needed**

Hazards:	None known.
Treatment:	Treat symptomatically.

SECTION 5: Firefighting measures

General Fire Hazards:	Combustible liquid and vapor.
Extinguishing media	
Suitable extinguishing media:	Water spray. Dry chemical. Carbon Dioxide. Alcohol foam.
Unsuitable extinguishing media:	None known.
Special hazards arising from the substance or mixture:	Forms peroxides of unknown stability.
Advice for firefighters	
Special fire fighting procedures:	Water may be ineffective in fighting the fire. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Wear appropriate personal protective equipment.
Environmental Precautions:	Avoid release to the environment.
Methods and material for containment and cleaning up:	Eliminate sources of ignition. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Large Spillages: Prevent runoff from entering drains, sewers, or streams. Dike for later disposal.
Notification Procedures:	In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

SECTION 7: Handling and storage:

Precautions for safe handling:	Avoid breathing high vapor concentrations. Use only with adequate ventilation. Wash thoroughly after handling. Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Do not allow to evaporate to near dryness. Do not distill to near dryness. Addition of water or appropriate reducing materials will lessen peroxide formation.
Conditions for safe storage, including any incompatibilities:	Keep container tightly closed. Store away from heat and light.
Specific end use(s):	Solvent

SECTION 8: Exposure controls/personal protection**Control Parameters****Occupational Exposure Limits**

Country specific exposure limits have not been established or are not applicable unless listed below.

Exposure controls

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information: Eye bath. Washing facilities.

Eye/face protection: Wear safety glasses with side shields (or goggles).

Skin protection

Hand Protection: Wear chemical-resistant gloves, footwear, and protective clothing appropriate for the risk of exposure. Contact health and safety professional or manufacturer for specific information.

Other: No data available.

Respiratory Protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. In the United States of America, if respirators are used, a program should be instituted to assure compliance with OSHA Standard 63 FR 1152, January 8, 1998. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister. Contact health and safety professional or manufacturer for specific information.

Hygiene measures: Observe good industrial hygiene practices.

Environmental Controls: No data available.

SECTION 9: Physical and chemical properties**Information on basic physical and chemical properties****Appearance**

Physical State: Liquid
Form: Liquid
Color: Colorless
Odor: Slight
Odor Threshold: No data available.

pH:	No data available.
Freezing Point:	-85 °C
Boiling Point:	194 °C
Flash Point:	86 °C (Tag closed cup)
Evaporation Rate:	0.02
Flammability (solid, gas):	No data available.
Flammability Limit - Upper (%)-:	No data available.
Flammability Limit - Lower (%)-:	No data available.
Vapor pressure:	0.27 mbar (20 °C)
Vapor density (air=1):	4.1
Specific Gravity:	1.022 (20 °C)
Solubility(ies)	
Solubility in Water:	Completely Soluble
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	Pow: 0.07 log Pow: -1.14
Autoignition Temperature:	221 °C (ASTM E659)
Decomposition Temperature:	(DTA) No exotherm to 500°C
Dynamic Viscosity:	No data available.
Kinematic viscosity:	No data available.
Explosive properties:	No data available.
Oxidizing properties:	No data available.

SECTION 10: Stability and reactivity

Reactivity:	None known.
Chemical Stability:	Stable
Possibility of Hazardous Reactions:	Forms peroxides of unknown stability.
Conditions to Avoid:	Incompatible materials.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Carbon Dioxide. Carbon Monoxide.

SECTION 11: Toxicological information**Information on likely routes of exposure**

Inhalation:	None known.
Ingestion:	None known.
Skin Contact:	None known.
Eye contact:	None known.

Information on toxicological effects**Acute Toxicity****Oral**

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

Oral LD-50: (Rat): 7,128 mg/kg
Oral LD-50: (Mouse): 7,128 mg/kg

Dermal

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

Dermal LD-50: (Rabbit): 9,404 mg/kg

Inhalation

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Repeated Dose Toxicity

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Skin Corrosion/Irritation:

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

(Rabbit, 24 h): Slight
(Guinea Pig, 24 h): Slight

Serious Eye Damage/Eye Irritation:

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

(Rabbit): Slight

Respiratory or Skin Sensitization:

Product: No data available.

Specified substance(s)2-(2-
methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Mutagenicity**In vitro****Product:**

No data available.

Specified substance(s)2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

In vivo**Product:**

No data available.

Specified substance(s)2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Carcinogenicity**Product:**

No data available.

Specified substance(s)2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Reproductive Toxicity**Product:**

No data available.

Specified substance(s)2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Specific Target Organ Toxicity - Single Exposure**Product:**

No data available.

Specified substance(s)2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Specific Target Organ Toxicity - Repeated Exposure**Product:**

No data available.

Specified substance(s)2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Aspiration Hazard**Product:**

No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Other Adverse Effects: High oral doses of this material given to male animals produced testicular damage., Oral doses of this material that were high enough to cause toxicity in pregnant animals also produced birth defects in their offspring., However, high doses to humans handling this material are not expected since oral consumption is not a likely route of significant exposure.

SECTION 12: Ecological information

Toxicity

Acute toxicity

Fish

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

LC-50 (goldfish, 24 h): > 5,000 mg/l
LC-50 (Bluegill Sunfish, 96 h): 7,500 mg/l

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Chronic Toxicity

Fish

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Aquatic Invertebrates

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;
diethylene glycol
monomethyl ether

No data available.

Toxicity to Aquatic Plants

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol;

No data available.

diethylene glycol
 monomethyl ether

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol; No data available.
 diethylene glycol
 monomethyl ether

Biological Oxygen Demand:

Product No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol; BOD-5: 20 mg/g
 diethylene glycol BOD-20: 80 mg/g
 monomethyl ether

Chemical Oxygen Demand:

Product No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol; 1,700 mg/g
 diethylene glycol
 monomethyl ether

BOD/COD Ratio

Product No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol; 1.18 %
 diethylene glycol
 monomethyl ether

Bioaccumulative Potential

Product: No data available.

Specified substance(s)

2-(2-methoxyethoxy)ethanol; No data available.
 diethylene glycol
 monomethyl ether

Mobility in Soil:

No data available.

Known or predicted distribution to environmental compartments

2-(2-methoxyethoxy)ethanol; No data available.
 diethylene glycol monomethyl
 ether

**Results of PBT and vPvB
 assessment:**

No data available.

2-(2-methoxyethoxy)ethanol; No data available.
 diethylene glycol monomethyl
 ether

Other Adverse Effects:

No data available.

SECTION 13: Disposal considerations**Waste treatment methods**

General information: No data available.

Disposal methods: Dispose of waste and residues in accordance with local authority requirements. Incinerate. Since emptied containers retain product residue, follow label warnings even after container is emptied.

SECTION 14: Transport information

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

DOT

Class combustible liquid, Packing group III for quantities of 450 liters (119 gallons) or more; not regulated for smaller quantities

Possible Shipping Description(s):

NA 1993 Combustible liquid, n.o.s. (diethylene glycol monomethyl ether) combustible liquid III

IMDG - International Maritime Dangerous Goods Code

Class not regulated

Possible Shipping Description(s):

not regulated

IATA

Class not regulated

Possible Shipping Description(s):

not regulated

SECTION 15: Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture:**

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

WHMIS (Canada) Status: controlled

WHMIS (Canada) Hazard Classification: B/3, D/2/A

SARA 311-312 Hazard Classification(s):

delayed (chronic) health hazard
fire hazard

US EPCRA (SARA Title III) Section 313 - Toxic Chemical List

DIETHYLENE GLYCOL MONOMETHYL ETHER (GLYCOL ETHER CATEGORY)

OSHA: hazardous

TSCA (US Toxic Substances Control Act): This product is listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): This product is listed on the DSL. Any impurities present in this product are exempt from listing.

AICS / NICNAS (Australian Inventory of Chemical Substances and National Industrial Chemicals Notification and Assessment Scheme): This product is listed on AICS or otherwise complies with NICNAS.

MITI (Japanese Handbook of Existing and New Chemical Substances): This product is listed in the Handbook or has been approved in Japan by new substance notification.

ECL (Korean Toxic Substances Control Act): This product is listed on the Korean inventory or otherwise complies with the Korean Toxic Substances Control Act.KE-23278

Philippines Inventory (PICCS) : This product is listed on the Philippine Inventory or otherwise complies with PICCS.

Inventory of Existing Chemical Substances in China: All components of this product are listed on the Inventory of Existing Chemical Substances in China (IECSC).

SECTION 16: Other information

HMIS® Hazard Ratings: Health - 1*, Flammability - 2, Chemical Reactivity - 0

HMIS® rating involves data interpretations that may vary from company to company. They are intended only for rapid, general identification of the magnitude of the specific hazard. To deal adequately with the safe handling of this material, all the information contained in this MSDS must be considered.

Revision Information: Not relevant.

Key literature references and sources for data: No data available.

Training information: No data available.

Issue Date: 01/22/2015

SDS No.:

Disclaimer: This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.