

SAFETY DATA SHEET

Preparation Date: 4/27/2018

Revision Date: 4/28/2018

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: M1222
Product Name: 2-(2-METHOXYETHOXY)ETHANOL, REAGENT

Other means of identification

Synonyms: Diethylene glycol methyl ether
 Diethylene glycol monomethyl ether
 Diglycol monomethyl ether
 Methoxydiglycol
 2-(2-Methoxyethoxy)ethanol
 beta-Methoxy-beta'-hydroxydiethyl ether
 Methyl carbitol
 Ethylene diglycol monomethyl ether

CAS #: 111-77-3
RTECS # KL6125000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Serious eye damage/eye irritation	Category 2B
Reproductive toxicity	Category 2
Flammable liquids	Category 4

Label elements

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Warning

Hazard statements

Causes mild skin irritation
Causes eye irritation
Suspected of damaging fertility or the unborn child
Combustible liquid



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention

In case of fire: Use CO₂, dry chemical, or foam to extinguish.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Precautionary Statements - Storage

Store locked up
Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
2-(2-Methoxyethoxy)ethanol	111-77-3	100

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

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Eye Contact: Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms Causes eye irritation
Mild eye irritation
Central nervous system depression
May cause headache
Somnolence
May cause abdominal pain, nausea, vomiting, diarrhea
It may affect the kidneys

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat symptomatically.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide.

Specific hazards: Combustible material. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated.

Special Protective Actions for Firefighters

Specific Methods: Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal; do not scatter the material.

Special Protective Equipment for Firefighters: As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area.

Incompatible Materials:

Strong oxidizing agents
Perchloric acid
Hypochlorites

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	CAS-No.	OSHA	NIOSH	ACGIH	AIHA WEEL
2-(2-Methoxyethoxy)ethanol	111-77-3	None	None	None	None

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Canada

Components	CAS-No.	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
2-(2-Methoxyethoxy)ethanol	111-77-3	None	None	None	None

Australia and Mexico

Components	CAS-No.	Australia	Mexico
2-(2-Methoxyethoxy)ethanol	111-77-3	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:

Goggles

Skin and body protection:

Chemical resistant apron
Long sleeved clothing
Gloves

Respiratory protection:

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Respiratory protection is not necessary for normal handling. Good room ventilation or use of local exhaust (fume hood) is sufficient. Use a vapor respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentrations of mist or vapor, inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

Hygiene measures:

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:

Liquid

Appearance:

No information available.

Color:

Colorless.

Odor:

Pleasant. Slight. Ether-like.

Taste

Bitter.

Formula:

C₅H₁₂O₃

Molecular/Formula weight:

120.15

Flammability:

Combustible

Flashpoint (°C/°F):

83-87 °C/181.4-188.6 °F

93.3-96 °C/200-205 °F

Flash Point Tested according to:

Closed cup

Open cup

Autoignition Temperature (°C/°F):

240 °C/465 °F

Lower Explosion Limit (%):

1.2-1.38%

Upper Explosion Limit (%):

No information available

Melting point/range(°C/°F):

-83.89 to -70°C/-119 to -94 °F

Decomposition temperature(°C/°F):

No information available

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Boiling point/range(°C/°F):
193°-194°C/379.4°-381°F

Bulk density:
No information available

Density (g/cm3):
No information available

Specific gravity:
1.035

pH:
No information available

Vapor pressure @ 20°C (kPa):
0.03 kPa @ 25°C

Evaporation rate:
No information available

Vapor density:
4.14

VOC content (g/L):
No information available

Odor threshold (ppm):
No information available

**Partition coefficient
(n-octanol/water):**
log Kow = -1.18

Viscosity:
No information available

Miscibility:
Miscible with Acetone
Miscible with alcohol
Miscible with Ether
Miscible with Glycerol

Solubility:
Very soluble in Ethanol
Very soluble in Ether
Very soluble in Benzene

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents

Chemical stability

Stability: Hygroscopic. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Incompatible materials. Exposure to moisture.

Incompatible Materials: Strong oxidizing agents
Perchloric acid
Hypochlorites

Hazardous decomposition products: No information available.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:
Eyes. Skin. Ingestion.

Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document
Component Information

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2-(2-Methoxyethoxy)ethanol	
CAS-No.	111-77-3

LD50/oral/rat = 4 mL/kg Oral LD50 Rat (RTECS); 5500-6500 mg/kg (European Chemicals Bureau IUCLID dataset)

LD50/oral/mouse = No information available

LD50/dermal/rabbit = 650 mg/kg Dermal LD50 Rabbit; 2500 µL/kg Dermal LD50 Rabbit

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = 7190 mg/kg Oral LD50 Rabbit; 4160 mg/kg Oral LD50 Guinea pig

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 5500 µL/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 6600 µL/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = 4200 µL/kg

LD50/dermal/rat

VALUE -Acute Tox Dermal = 6 ml/kg

LC50/inhalation/rat

VALUE-Vapor = 5240 mg/m³ (4-hr)

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: May cause skin irritation.

Eye Contact: Causes eye irritation. Mild eye irritation.

Inhalation May cause irritation of respiratory tract.

Ingestion May cause abdominal pain, nausea, vomiting, diarrhea. It may cause central nervous system depression. May cause headache. May affect behavior/central nervous system (somnolence). May affect behavior/central nervous system (general anesthetic). May affect urinary system (kidneys).

Aspiration hazard No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Chronic exposure may affect the liver, kidneys, and blood.

Sensitization: No information available.

Mutagenic Effects: Experiments with bacteria and/or yeast have shown mutagenic effects

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May affect genetic material

Carcinogenic effects: Not considered carcinogenic.

Components	CAS-No.	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
2-(2-Methoxyethoxy)ethanol	111-77-3	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

Reproductive toxicity No data is available

Reproductive Effects: May cause adverse reproductive effects based on animal data

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Target Organs: Kidneys. Liver. Blood.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

2-(2-Methoxyethoxy)ethanol - 111-77-3

Freshwater Algae Data: 500 mg/L EC50 *Desmodesmus subspicatus* 72 h

Freshwater Fish Species Data: 7500 mg/L LC50 *Lepomis macrochirus* 96 h static 1 7500 mg/L LC50 *Lepomis macrochirus* 96 h 1 5741 mg/L LC50 *Pimephales promelas* 96 h 1

Water Flea Data: 500 mg/L EC50 *Daphnia magna* 48 h

Persistence and degradability: No information available

Bioaccumulative potential: Potential for bioconcentration in aquatic organisms is low.

Mobility: It is expected to have very high mobility based on estimated Koc.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

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Components	CAS-No.	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
2-(2-Methoxyethoxy)ethanol	111-77-3	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Class: No information available
Packing group: No information available
Emergency Response Guide Number: No information available
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No Information available
Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant: No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available

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Packing Group: No information available

IATA

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
ERG Code: No information available
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Components	CAS-No.	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
2-(2-Methoxyethoxy)ethanol	111-77-3	PresentACTIVE	Present KE-23278	Present	Present (7)-97,(2)-422,(2)-2979	Present	Present	Present 203-906-6

U.S. Regulations

2-(2-Methoxyethoxy)ethanol
Massachusetts RTK: Present
Pennsylvania RTK: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	CAS-No.	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
2-(2-Methoxyethoxy)ethanol	111-77-3	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CAS-No.	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
2-(2-Methoxyethoxy)ethanol	111-77-3	None	None	None	None	None

U.S. TSCA

Components	CAS-No.	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
2-(2-Methoxyethoxy)ethanol	111-77-3	Not Applicable	Not Applicable

Canada

WHIMIS 2015 - GHS Classifications

Product code: M1222

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WHMIS 2015 Hazard Classification Information:

Canada Hazardous Products Regulation This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

WHMIS 1988 Hazard Class

The classification of this product has not been validated yet

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
2-(2-Methoxyethoxy)ethanol	1 %

Inventory

Components	CAS-No.	Canada (DSL)	Canada (NDSL)
2-(2-Methoxyethoxy)ethanol	111-77-3	Present	Not Listed

Components	CAS-No.	CEPA Schedule I - Toxic Substances
2-(2-Methoxyethoxy)ethanol	111-77-3	Present
Components	CAS-No.	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
2-(2-Methoxyethoxy)ethanol	111-77-3	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Components	CAS-No.	EU GHS - SV - CLP (1272/2008)
2-(2-Methoxyethoxy)ethanol	111-77-3	Reproductive Toxicity - Repr. 2: H361d Suspected of damaging the unborn child. (Hazard statements H360 and H361 indicate a general concern for effects on both fertility and development: May damage/Suspected of damaging fertility or the unborn child; According to the criteria, the general hazard statement can be replaced by the hazard statement indicating the specific effect of concern in accordance with section 1.1.2.1.2; When the other differentiation is not mentioned, this is due to evidence proving no such effect, inconclusive data or no data and the obligations in Article 4(3) shall apply for that differentiation)603-107-00-6

EU - CLP (1272/2008)

R-phrase(s)

R63 - Possible risk of harm to the unborn child.

S -phrase(s)

S 2 - Keep out of the reach of children.

S36/37 - Wear suitable protective clothing and gloves.

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Components	CAS-No.	Classification	Concentration Limits:	Safety Phrases
2-(2-Methoxyethoxy)ethanol	111-77-3	Repr.Cat.3; R63	No information	S: (2)-36/37

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.

16. OTHER INFORMATION

Preparation Date: 4/27/2018
Revision Date: 4/28/2018
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet