

SAFETY DATA SHEET

Creation Date 11-Jun-2014

Revision Date 24-May-2017

Revision Number 3

1. Identification

Product Name Ethylene Glycol Monomethyl Ether (Certified)

Cat No. : E182-4; E182-20; E182-500

Synonyms EGME; Ethylene glycol methyl ether; Methyl Cellosolve

Recommended Use Laboratory chemicals.

Uses advised against Not for food, drug, pesticide or biocidal product use

Details of the supplier of the safety data sheet

Company

Fisher Scientific
One Reagent Lane
Fair Lawn, NJ 07410
Tel: (201) 796-7100

Emergency Telephone Number

CHEMTREC®, Inside the USA: 800-424-9300

CHEMTREC®, Outside the USA: 001-703-527-3887

2. Hazard(s) identification

Classification

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

Flammable liquids	Category 3
Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Reproductive Toxicity	Category 1B
Specific target organ toxicity (single exposure)	Category 1
Target Organs - Immune system.	
Specific target organ toxicity - (repeated exposure)	Category 2
Target Organs - Thymus.	

Label Elements

Signal Word

Danger

Hazard Statements

Flammable liquid and vapor

Harmful if swallowed

Harmful in contact with skin

Harmful if inhaled

May damage fertility. May damage the unborn child

Causes damage to organs

May cause damage to organs through prolonged or repeated exposure



Precautionary Statements

Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Wash face, hands and any exposed skin thoroughly after handling
 Do not eat, drink or smoke when using this product
 Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 Keep container tightly closed
 Ground/bond container and receiving equipment
 Use explosion-proof electrical/ventilating/lighting/equipment
 Use only non-sparking tools
 Take precautionary measures against static discharge
 Keep cool

Response

IF exposed: Call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell

Skin

Call a POISON CENTER or doctor/physician if you feel unwell
 Wash contaminated clothing before reuse
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 Rinse mouth

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction

Storage

Store locked up
 Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

WARNING! This product contains a chemical known in the State of California to cause cancer, birth defects or other reproductive harm.

3. Composition / information on ingredients

Component	CAS-No	Weight %
2-Methoxyethanol	109-86-4	> 98

4. First-aid measures

General Advice

If symptoms persist, call a physician.

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Inhalation	Move to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Most important symptoms/effects	Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
Notes to Physician	Treat symptomatically

5. Fire-fighting measures

Suitable Extinguishing Media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	No information available
Flash Point	38 °C / 100.4 °F
Method -	No information available
Autoignition Temperature	285 °C / 545 °F
Explosion Limits	
Upper	19.8 vol %
Lower	1.8 vol %
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Thermal decomposition can lead to release of irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Carbon monoxide (CO) Carbon dioxide (CO₂) peroxides Methanol

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

Health	Flammability	Instability	Physical hazards
3	2	1	N/A

6. Accidental release measures

Personal Precautions	Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
Environmental Precautions	Should not be released into the environment.
Methods for Containment and Clean Up	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment.

7. Handling and storage

Handling	Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Ensure
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adequate ventilation. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use explosion-proof equipment. Take precautionary measures against static discharges.

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. Exposure controls / personal protection

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH	Mexico OEL (TWA)
2-Methoxyethanol	TWA: 0.1 ppm Skin	(Vacated) TWA: 25 ppm (Vacated) TWA: 80 mg/m ³ Skin TWA: 25 ppm TWA: 80 mg/m ³	IDLH: 200 ppm TWA: 0.1 ppm TWA: 0.3 mg/m ³	TWA: 25 ppm TWA: 80 mg/m ³ STEL: 35 ppm STEL: 120 mg/m ³

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures

Use only under a chemical fume hood. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment**Eye/face Protection**

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Long sleeved clothing.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Physical State	Liquid
Appearance	Clear
Odor	Ether
Odor Threshold	No information available
pH	No information available
Melting Point/Range	-85 °C / -121 °F
Boiling Point/Range	124 °C / 255.2 °F @ 760 mmHg
Flash Point	38 °C / 100.4 °F
Evaporation Rate	0.53 (Butyl Acetate = 1.0)
Flammability (solid,gas)	Not applicable
Flammability or explosive limits	
Upper	19.8 vol %
Lower	1.8 vol %
Vapor Pressure	9.5 mmHg @ 25 °C
Vapor Density	2.62 (Air = 1.0)
Specific Gravity	.9600

Solubility	miscible
Partition coefficient; n-octanol/water	No data available
Autoignition Temperature	285 °C / 545 °F
Decomposition Temperature	No information available
Viscosity	No information available
Molecular Formula	C3H8O2
Molecular Weight	76.09
VOC Content(%)	98

10. Stability and reactivity

Reactive Hazard	None known, based on information available
Stability	Light sensitive. Air sensitive. Reacts with air to form peroxides. heat sensitive.
Conditions to Avoid	Keep away from open flames, hot surfaces and sources of ignition. Incompatible products. Excess heat. Exposure to light. Exposure to air over prolonged period.
Incompatible Materials	Strong oxidizing agents, Acids, Bases, Copper alloys, copper
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), peroxides, Methanol
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions	None under normal processing. May form explosive peroxides.

11. Toxicological information

Acute Toxicity

Product Information Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Methoxyethanol	LD50 = 2370 mg/kg (Rat)	LD50 = 1280 mg/kg (Rabbit)	LC50 = 1478 ppm (Rat) 7 h

Toxicologically Synergistic Products No information available

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

Irritation	No information available
Sensitization	No information available
Carcinogenicity	The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
2-Methoxyethanol	109-86-4	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects	No information available
Reproductive Effects	No information available.
Developmental Effects	No information available.
Teratogenicity	Teratogenic effects have occurred in experimental animals.
STOT - single exposure	Immune system
STOT - repeated exposure	Thymus
Aspiration hazard	No information available
Symptoms / effects,both acute and	Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

delayed

Endocrine Disruptor Information No information available

Other Adverse Effects The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity

Do not empty into drains. .

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
2-Methoxyethanol	Not listed	LC50: = 10000 mg/L, 96h static (Lepomis macrochirus) LC50: > 500 mg/L, 96h static (Leuciscus idus) LC50: = 16000 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 9650 mg/L, 96h static (Lepomis macrochirus)	Not listed	EC50: > 10000 mg/L, 24h (Daphnia magna)

Persistence and Degradability Soluble in water Persistence is unlikely based on information available. Miscible with water

Bioaccumulation/ Accumulation No information available.

Mobility Will likely be mobile in the environment due to its water solubility.

Component	log Pow
2-Methoxyethanol	-0.85

13. Disposal considerations

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. Transport information

DOT

UN-No UN1188
 Proper Shipping Name ETHYLENE GLYCOL MONOMETHYL ETHER
 Hazard Class 3
 Packing Group III

TDG

UN-No UN1188
 Proper Shipping Name ETHYLENE GLYCOL MONOMETHYL ETHER
 Hazard Class 3
 Packing Group III

IATA

UN-No UN1188
 Proper Shipping Name ETHYLENE GLYCOL MONOMETHYL ETHER
 Hazard Class 3
 Packing Group III

IMDG/IMO

UN-No UN1188
 Proper Shipping Name ETHYLENE GLYCOL MONOMETHYL ETHER
 Hazard Class 3
 Packing Group III

15. Regulatory information

All of the components in the product are on the following Inventory lists: X = listed

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
2-Methoxyethanol	X	X	-	203-713-7	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.

S - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b)

Component	TSCA 12(b)
2-Methoxyethanol	Section 5

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
2-Methoxyethanol	109-86-4	> 98	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

CWA (Clean Water Act) Not applicable

Clean Air Act

Component	HAPS Data	Class 1 Ozone Depletors	Class 2 Ozone Depletors
2-Methoxyethanol	X		-

OSHA Occupational Safety and Health Administration

Not applicable

CERCLA

Not applicable

California Proposition 65

This product contains the following proposition 65 chemicals

Component	CAS-No	California Prop. 65	Prop 65 NSRL	Category
2-Methoxyethanol	109-86-4	Developmental Male Reproductive	-	Developmental

U.S. State Right-to-Know Regulations

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
2-Methoxyethanol	X	X	X	X	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
DOT Marine Pollutant N
DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Moderate risk, Grade 2

16. Other information

Prepared By Regulatory Affairs
Thermo Fisher Scientific
Email: EMSDS.RA@thermofisher.com

Creation Date 11-Jun-2014
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Revision Summary This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of SDS