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megaloid.ca



1. PRODUCT IDENTIFICATION

Name: *Glycol Ether DM*

Synonyms: *2-(2-methoxyethoxy) ethanol; diethylene glycol (mono)methyl ether, diglycol (mono)methyl ether, & others*


CAS# 111-77-3

Product Uses: *solvent in coatings; jet fuel additive, coupling agent for organic/aqueous solutions, fragrances, inks, coalescing agent in paints, etc*

Supplier Identifier: *Megaloid Laboratories Limited
5515 North Service Road, Suite 306
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Phone: 905-337-7411 / Fax: 905-337-1686*

EMERGENCY INFORMATION Call CHEMTREC - (800) 424-9300 (CCN # 693764)

2. HAZARDS

GHS Class <i>(category)</i>	Flammable <i>(4)</i>	Reproductive toxicity <i>(2)</i>	 Label Pictograms
Signal Word	WARNING		
Hazard Statements	<i>Combustible liquid (H227)</i>	<i>Suspected of damaging fertility (H360)</i>	

GHS Precautionary Statements for Labelling

Prevention	
P210	Keep away from heat, sparks, open flames and hot surfaces. No smoking.
P262	Do not get in eyes, on skin or on clothing
P264	Wash hands thoroughly after handling.
P280	Wear eye protection, protective gloves and clothing of butyl rubber
Response	
P370, P378	IN CASE OF FIRE: use alcohol-resistant foam to extinguish.
Storage	
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

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Disposal

P501 Dispose of contents and container in accordance with local, regional, national and international regulations.

3. COMPOSITION

Chemical Name:	CAS No.	%	Other Identifiers
Diethylene glycol monomethyl ether	111-77-3	100	EC # 203-906-6

4. FIRST AID

Inhalation

Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.**

Skin Contact

Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

Eye Contact

Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is any irritation.

Ingestion

Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

First-aid Comments

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

5. FIRE FIGHTING & FLAMMABILITY

Extinguishing Media

Suitable Extinguishing Media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Combustion Products

During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Firefighters must wear SCBA. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel.

Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Leak Precaution: dyke to control spillage and prevent environmental contamination

Handling Spill: Ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal.

Other Information

Report spills to local health, safety and environmental authorities, as required.

7. HANDLING & STORAGE

Precautions for Safe Handling

This material is a suspect teratogen / embryo toxin (affecting pregnant women) & a combustible liquid. Ensure engineering controls are operating & protective equipment requirements & personal hygiene measures are being followed.

Avoid generating or breathing product mist. If mist forms in use install adequate ventilation to clear workplace air. Avoid prolonged contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

Conditions for Safe Storage

Store in a cool, dry environment, away from sources of ignition, heat, oxidizing agents keep containers, empty or full, tightly sealed unless in use.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV *not listed*
ACGIH TLV *not listed*
OSHA PEL *not listed*

Ontario STEV *not listed*
ACGIH STEL *not listed*
OSHA STEL *not listed*

Ventilation	<i>no special mechanical ventilation required unless material is heated</i>
Hands	<i>not required: butyl or Viton gloves are resistant – other types may also protect; confirm suitability with supplier</i>
Eyes	<i>Safety glasses with side shields – always protect the eyes</i>
Clothing	<i>No special protective clothing required</i>

Appropriate Engineering Controls

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

9. PHYSICAL PROPERTIES

Appearance	<i>Clear colourless, hygroscopic liquid.</i>
Odour	<i>mild, pleasant odour</i>
Odour threshold	<i>not known</i>
pH	<i>none – (does not liberate hydrogen ions when dissolved)</i>
Melting Point/Freezing Point	<i>-88.5 °C (-127.3 °F) (melting)</i>
Initial Boiling Point/Range	<i>below -70°C / -94°F</i>
Flash Point	<i>83-90°C / 181-194°F (closed cup) – various test results available</i>
Evaporation Rate	<i>0.02 – not considered volatile (Butyl Acetate = 1)</i>
Flammability (Solid, Gas)	<i>Not Available</i>
Upper/Lower Flammability or Explosive Limit	<i>1.4% - 22.7% – various flammable limits are listed</i>
Vapour Pressure	<i>0.18mmHg / 0.024kPa (20°C / 68°F); 0.25 mm Hg / 0.033 kPa (25°C / 77°F)</i>
Vapour Density (air = 1)	<i>4.1</i>
Specific Gravity)	<i>1.023 (20/20°C), also 1.035 kg/litre (0°C)</i>
Water Solubility	<i>Complete. Also soluble in most organic solvents</i>
Partition Coefficient, n-Octanol/Water (Log Kow)	<i>-0.47</i>
Auto-ignition Temperature	<i>215-240°C / 419-465°F – various test results available</i>
Decomposition Temperature	<i>no decomposition up to Autoignition Temperature</i>
Conversion Factor	<i>1ppm = 4.9g/m³</i>
Viscosity	<i>3.48 centipoise (25°C / 77°F)</i>
Physical State	<i>Liquid</i>
Molecular Weight	<i>120 grams per mole</i>
Molecular Formula	<i>C5-H12-O3</i>

10. REACTIVITY

Dangerously Reactive with strong oxidising agents; contact with calcium hypochlorite may cause ignition

Also Reactive with oleum or chlorosulphonic acid; corrosive to aluminium, zinc and galvanised metals

Chemical Stability

stable; will not polymerize

Decomposes in Presence of

perchloric acid – violent decomposition

Decomposition Product

none apart from Hazardous Combustion Products

Mechanical Impact

not sensitive

11. TOXICITY

General, no known effect

Acute Toxicity	
LD₅₀ (oral)	4080-5100 mg/kg (rat); 4160 mg/kg (guinea pig); 8222mg/kg (mouse); 7190mg/kg (rabbit)
LD50 (skin)	6540 & 9160 mg/kg (rabbit)
LC50 (inhalation)	above 50,000ppm (rat)

Skin Corrosion/Irritation

little to no effect

Serious Eye Damage/Irritation

may be slightly irritating

STOT (Specific Target Organ Toxicity) - Single Exposure**Inhalation**

vapour saturated air had virtually no effect on experimental animals; high concentration mists may cause intoxication, nausea, and central nervous depression.

Skin Absorption

probably, but no acute toxic effects likely by this route.

Ingestion

little effect at 2000mg/kg (oral); above this level symptoms similar to inhalation.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Do not breathe vapours. If inhaled remove person to fresh air and keep comfortable for breathing.

Respiratory and/or Skin Sensitization

not a sensitizer in humans or animals.

Carcinogenicity

Not considered a tumorigen or a carcinogen in humans or animals. IARC: Not specifically listed. ACGIH®: Not specifically designated. NTP: Not specifically listed. OSHA: Not specifically listed.

Reproductive Toxicity**Sexual Function and Fertility**

rodent teratogen and fetotoxin at 250mg/kg/day with no evidence of maternal symptoms; testicular atrophy seen in male rats on oral or dermal absorption; no known effect in humans

Germ Cell Mutagenicity

Not known to be a mutagen.

12. ECOLOGICAL INFORMATION

Bioaccumulation Persistence and Degradability	<i>Not a bioaccumulator.</i> Biodegradation - <i>biodegrades readily & rapidly: aerobic – >75% in 28days; anaerobic – >65% in 20days</i> Abiotic Degradation - <i>reacts with atmospheric hydroxyl (OH) radicals; estimated ½-life in air 3.2 days</i>
Mobility in soil, water	<i>Sufficiently water soluble to move readily in soil & water.</i>
Aquatic Toxicity	
LC50 (Fish, 96hr)	<i>7500mg/litre (Lepomis macrochirus), 1000mg/litre (Salmo gairdneri), 5740mg/litre (Pimephales promelas)</i>
EC50 (Crustacea, 48hr)	<i>1192mg/litre (Daphnia magna)</i>
EC50 (Algae, 72hrs)	<i>>500mg/litre (Desmodesmus subspicatus)</i>
EC50 (Bacteria, 17hr)	<i>>10,000mg/litre (Pseudomonas putida)</i>

13. DISPOSAL

Water Disposal

Do not flush to sewer, recycle solvent if possible, incinerated in approved facility

Containers

Drums should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.


Pails must be vented and thoroughly dried prior to crushing and recycling.

IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs).

Steel containers must be inspected, pressure tested & recertified every 5 years.

***Never cut, drill, weld or grind on or near this container,
even if empty***

14. TRANSPORT CLASSIFICATION

Canada TDG AND U.S.A. 49 CFR	PIN PIN Shipping Name	Not regulated for transport NA1993 Combustible Liquid, n.o.s. (diethylene glycol monomethyl ether)	U.S.A. only 
	Class & Packing Group	Combustible, PG III	

Marine Pollutant ERAP Required Reportable Quantity	Not a Marine Pollutant NO NO	
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15. REGULATIONS

Canada DSL	On Inventory
U.S.A. TSCA	On Inventory
Europe EINECS	On Inventory

Canadian Regulations

CEPA - National Pollutant Release Inventory (NPRI)

Part 1A

U.S.A. Regulations

Allowable Tolerances: Residues of diethylene glycol monomethyl ether are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Use: Deactivator for formulations used before crop emerges from soil, stabilizer.

Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non-air quality health and environmental impact and energy requirements. Diethylene glycol monomethyl ether is produced, as an intermediate or final product, by process units covered under this subpart.

TSCA Requirements: Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. Diethylene glycol monomethyl ether is included on this list. Effective date: 4/13/89; Sunset date: 12/19/95.

FIFRA Requirements: Residues of diethylene glycol monomethyl ether are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Use: Deactivator for formulations used before crop emerges from soil, stabilizer.

FDA Requirements: Diethylene glycol monomethyl ether is an indirect food additive for use only as a component of adhesives.

CALIFORNIA REGULATIONS:

This product contains no listed substances known to the State of California to cause cancer, birth defects, or other reproductive harm, at levels which would require a warning under the statute.

PENNSYLVANIA REGULATIONS:

The following product components are cited on the Pennsylvania Hazardous Substances List and/or the Pennsylvania Environmental Hazardous Substances List, and are present at levels which require reporting.

16. OTHER INFORMATION

NFPA RATING	Health 1	Flammability 3	Instability 0
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Prepared for Megaloid Laboratories Limited by Richard Koscher

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Revision Dates: June 2006, Jun 2009, Jun 2012, Jun 2013, Jun 2015, Mar 2018, Jan 2019

Key to Abbreviations	ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration RTECS® = Registry of Toxic Effects of Chemical Substances
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA (“BIOVIA”). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
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