

Material Safety Data for: Glycol Ether DPM

1. PRODUCT IDENTIFICATION

Name dipropylene glycol monomethyl ether
Synonyms 1-(2-methoxy-1-methylethoxy)-2-propanol, 1-(2-methoxyisopropoxy)-2-propanol, glycol ether DPM, DPGME
CAS# 34590-94-8
Product Uses solvent in coatings & cleaners; heat transfer fluid, *low toxicity substitute for glycol ether DM*

2. INGREDIENTS

	%	TWAEV / TLV mg/m ³	LD ₅₀ ORAL	(mg/kg) SKIN	LC ₅₀ ppm INHALATION
dipropylene glycol monomethyl ether	100%	100 (skin)	5130	9500	above 500

3. (a) HAZARDS SUMMARY

Hazards, Quick Guide: combustible liquid

Canada – WHMIS
Key:

B 3
B 2 – Flash Point <38°C, B 3 – Flash Point >38°C & <93°C
D 1 – Immediately Toxic, D 2 – Chronic Toxicity
C – Oxidising Substance, E – Corrosive

U.S.A. – HMIS
Key:

Health – 0, Fire – 2, Reactivity – 0
0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

3. (b) HAZARDS – TOXICITY

Effects, Acute Exposure

Skin Contact	little or no effect
Skin Absorption	yes; no toxic effects likely by this route
Eye Contact	slightly irritating
Inhalation	irritating above 75ppm but low vapour pressure makes this unlikely; mists of 1000ppm
cause	headache, dizziness, intoxication, drowsiness
Ingestion	not known, low toxicity – not a route of industrial exposure; large doses would have to be deliberately ingested, expected effects as for inhalation

Effects, Chronic Exposure

General	none known
Sensitising	not a sensitiser in humans or animals
Carcinogen/Tumorigen	not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect in humans or animals
Mutagen	no known effect on humans or animals
Synergistic With	not known
LD ₅₀ (oral)	5130 & 5225mg/kg (rat), 7100mg/kg (dog)
LD ₅₀ (skin)	9500mg/kg (rabbit)
LC ₅₀ (inhalation)	above 500ppm (<i>no mortality</i>)

Please ensure that this MSDS is given to, and explained to people using this product.

(Glycol Ether DPM, cont'd)

page 2

4. FIRST AID

- SKIN: Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.
- EYES: Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
- INHALATION: Remove from contaminated area promptly. **CAUTION: Rescuer must not endanger himself!** If breathing stops, administer artificial respiration and seek medical aid promptly.
- 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.

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. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless liquid with mild ether odour
Odour Threshold	35ppm
Vapour Pressure	0.38mmHg / 0.05kPa (25°C / 77°F)
Evaporation Rate (<i>Butyl Acetate = 1</i>)	0.02
Vapour Density (air = 1)	5.1
Boiling Range	190°C / 374°F
Freezing Point	-83°C / -117°F
Specific Gravity	0.95 (20/20°C)
Water Solubility	complete
Also soluble in	most organic solvents
Viscosity	3.5centipoise (25°C / 77°F)
pH	none – (<i>does not liberate hydrogen ions when dissolved</i>)
Conversion Factor	1ppm = 6.05mg/m ³
Molecular Weight	148grams per mole

6. FLAMMABILITY & FIRE FIGHTING

Flash Point	86°C / 186°F (closed cup)
Autoignition Temperature	270°C / 518°F
Flammable Limits	1.1% – 3.0%
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Fire Fighting Precautions	alcohol or polymer foam, dry chemical, water fog or spray; fire fighters must wear SCBA
Static Charge Accumulation	readily accumulates a static charge on agitation or pumping

7. STABILITY / REACTIVITY

Dangerously Reactive With	strong oxidising agents
Also Reactive With	not known
Stability	stable; will not polymerize
Decomposes in Presence of	oxygen plus ultraviolet light
Decomposition Products	apart from Hazardous Combustion Products; explosive peroxides may form
Sensitive to Mechanical Impact	no

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8. PROTECTIVE EQUIPMENT / EXPOSURE CONTROL

ACGIH TLV	100ppm / 606mg/m ³ (skin)
OSHA PEL	100ppm / 600mg/m ³ (skin)
OSHA STEL	150ppm / 900mg/m ³
Ventilation	no special ventilation required
Hands	no special protective gloves required – butyl gloves are likely to be resistant
Eyes	safety glasses with side shields – <i>always protect the eyes</i>
Clothing	no special protective clothing required

9. HANDLING & STORAGE

Store in a cool, dry environment, away from sources of ignition and oxidising agents.

This product may react with oxygen in the air to form explosive or flammable peroxides. The rate of any such reaction is likely to be very slow, however ensure that containers are full and tightly sealed. Distillation may concentrate any peroxides which may have formed. Never distil to dryness, as this may cause an explosion. Always ensure that containers, whether empty or full, or part full, are tightly sealed unless in use.

Avoid breathing product vapour. Use with adequate ventilation. Never cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin and wash work clothes frequently. An eye bath and safety shower must be available near the workplace.

10. SPILL PROCEDURES

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, shovel & store in closed containers for recycling or disposal

11. DISPOSAL

Waste Disposal	do not flush to sewer , recycle solvent if possible, may be 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. <i>Never cut, drill, weld or grind on or near this container, even if empty</i>

12. ENVIRONMENTAL INFORMATION

Bioaccumulation	not a bioaccumulator due to high water solubility and rapid rate of elimination/metabolism
Biodegradation	this product degrades readily in the presence of oxygen; 31% biodegradation in 20 days
Abiotic Degradation	direct photolysis is reported to cause destruction with a half-life of 3-4 hours
Mobility in soil, water	this product is water soluble and will move readily in soil and water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	10,000mg/litre (pimephales promelas),
LC ₅₀ (Crustacea, 96hr)	above 1000mg/litre (crangon crangon), 1920mg/litre (daphnia magna, 48hr)

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(Glycol Ether DPM, cont'd)

page 4

13. TRANSPORT REGULATIONS

Canada TDG	PIN	not regulated for transport
	Shipping Name	not regulated for transport
	Class	not regulated for transport
	Packing Group	not regulated for transport
U.S.A. 49 CFR	PIN	NA-1993
	Shipping Name	COMBUSTIBLE LIQUIDS N.O.S. (dipropylene glycol methyl ether)
	Class	3
	Packing Group	none – combustible
Marine Pollutant		not a marine pollutant

14. EMERGENCY INFORMATION

Canada	Call CANUTEC (collect)	(613) 996-6666
U.S.A.	Call CHEMTREC	(800) 424-9300

15. REGULATIONS

Canada DSL	on inventory
U.S.A. TSCA	on inventory
Europe EINECS	on inventory (EC# 252-104-2)

Immediately Dangerous to Life or Health: 600 ppm

Allowable Tolerances: Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a stabilizer in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a surfactant or a related adjuvant of a surfactant in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time-Weighted Avg: 100 ppm (600 mg/cu m). Skin Designation. Vacated 1989 OSHA PEL TWA 100 ppm (600 mg/cu m); STEL 150 ppm (900 mg/cu m), skin designation, is still enforced in some states.

NIOSH Recommendations: Recommended Exposure Limit: 10 Hr Time-Weighted avg: 100 ppm (600 mg/cu m); skin. Recommended Exposure Limit: 15 Min Short-Term Exposure Limit: 150 ppm (900 mg/cu m); skin.

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 100 ppm; 15 min Short Term Exposure Limit (STEL): 150 ppm, skin.

FIFRA Requirements: Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a stabilizer in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only. Dipropylene glycol monomethyl ether is exempted from the requirement of a tolerance when used as a surfactant or a related adjuvant of a surfactant in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals.

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

16. PREPARATION INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577

File Name: **DPM**

With data from RTECS, Haz. Substance Data Base, Cheminfo (CCOHS), IUCLID Datasheets (European Chem. Substance Info. System), & others, as available

Preparation Date: **June 2006** Revision Date: **June 2009**

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