



Safety Data Sheet

1. PRODUCT IDENTIFICATION

Name	Glycol Ether DP
Synonyms	diethylene glycol monopropyl ether; 2-(2-propoxyethoxy)ethanol; DP
CAS#	68991-94-3
Europe EC#	229-985-7
Product Uses	solvent

2. HAZARDS

Quick Guide: may irritate the eyes

Canada – WHMIS

Key:

D 2B

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, **F** – Reactive Substance

U.S.A. – HMIS

Key:

Health – 2, Fire – 1/2, Reactivity – 0

0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

3. COMPOSITION

	%	TWAEV / TLV mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
Diethylene Glycol Monopropyl Ether	100%	not listed	3810	5050	not known

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. FIRE FIGHTING & FLAMMABILITY

Flash Point	>93°C / 199°F (Setaflash, closed cup)
Autoignition Temperature	204°C / 400°F
Lower Flammable Limit	0.85%, upper limit not known
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Firefighting Precautions	foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA
Static Charge Accumulation	probably cannot accumulate a static charge on agitation or pumping

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

6. ACCIDENTAL RELEASE MEASURES

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

7. HANDLING & STORAGE

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

This product may react with oxygen in the air to form explosive or flammable peroxides. Never distill to dryness. If prolonged storage is anticipated, flush container headspace with dry nitrogen gas prior to sealing. Empty containers may contain a flammable or explosive vapour. Always ensure containers, whether empty or full, are tightly sealed unless in use.

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.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV not listed
 ACGIH TLV not listed
 OSHA PEL not listed
 Ventilation no special ventilation required
 Hands not required; butyl or "Viton" gloves are resistant – *consult supplier to confirm suitability*
 Eyes safety glasses with side shields – *always protect the eyes*
 Clothing no special protective clothing required

9. PHYSICAL PROPERTIES

Odour & Appearance clear, colourless liquid with mild ether odour
 Odour Threshold not known
 Vapour Pressure 0.005mmHg / 0.0067kPa (20°C / 68°F)
 Evaporation Rate (*Butyl Acetate = 1*) 0.01
 Vapour Density (air = 1) 5
 Boiling Range 215°C / 420°F
 Freezing Point -68°C / -92°F
 Specific Gravity 0.96 (20/20°C)
 Water Solubility complete
 Also soluble in most organic solvents
 Log P_{o/w} (*octanol/water partition*) not known – *highly water soluble*
 Viscosity 4centipoise (25°C / 77°F)
 pH none – (*does not liberate hydrogen ions when dissolved*)
 Molecular Weight 148grams per mole

10. REACTIVITY

Dangerously Reactive With strong oxidising agents
 Also Reactive With none known
 Stability stable; will not polymerize
 Decomposes in Presence of oxygen in air – *gradually*
 Decomposition Products apart from Hazardous Combustion Products, potentially explosive peroxides
 Sensitive to Mechanical Impact no

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11. TOXICITY

Effects, Acute Exposure

Skin Contact	may be slightly irritating
Skin Absorption	yes, but no toxic effects likely by this route
Eye Contact	may irritate the eyes; will not damage eyes
Inhalation	may irritate but low vapour pressure makes this effect unlikely at ambient temperature
Ingestion	not known – may cause stomach discomfort and diarrhoea

Effects, Chronic Exposure

General	prolonged exposure may cause drying, leading to dermatitis; ingestion of over 800mg/kg/day for more than 30 days (rats) caused renal & liver damage – <i>not relevant to industrial exposure</i>
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)	6660mg/kg (rat – <i>Eastman</i>), 3810mg/kg (mouse – <i>Eastman</i>)
LD ₅₀ (skin)	5050mg/kg (guinea pig – <i>Eastman</i>)
LC ₅₀ (inhalation)	not known – <i>a lethal concentration could not be achieved in testing on rats*</i>

* see *SIDS Report* – link at end of this document

12. ECOLOGICAL INFORMATION

Bioaccumulation	Glycol Ether DP is not a bioaccumulator**
Biodegradation	not known; extrapolating from Glycol Ether DB, DP should biodegrade 47%-88% aerobically in 28 days; Canadian assessment says DP is “not persistent”**
Abiotic Degradation	not known; extrapolating from Glycol Ether DB, DP ½-life in air should be less than 24hours
Mobility in soil, water	water soluble; move readily in soil & water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	>96mg/litre (Pimephelas promelas – <i>Eastman</i>), >5000mg/litre (<i>estimate – SIDS*, below</i>)
EC ₅₀ (Crustacea, 48hr)	>10,000mg/litre (<i>estimate – SIDS*, below</i>)
EC ₅₀ (Algae)	>500mg/litre (<i>estimate – SIDS*, below</i>)
EC ₅₀ (Bacteria)	no data, <i>but ready biodegradability suggests low toxicity to bacteria</i>

* see *SIDS Report* – link at end of this document

** see *Canadian OECD Ecological Categorization* – link at end of this document

13. DISPOSAL

Waste Disposal	do not flush to sewer , recycle solvent if possible, may be incinerated in approved facility
Containers	Drums should be reused. Recondition & 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 mo. Replace at 60 months. Steel containers must be inspected, pressure tested & recertified every 5 yrs. <i>Never cut, drill, weld or grind on or near this container, even if empty</i>

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14. TRANSPORT CLASSIFICATION

Canada TDG	PIN	UN-not regulated for transportation
	Shipping Name	not regulated for transportation
	Class	not regulated for transportation
	Packing Group	not regulated for transportation

*NOTE: This product is on the borderline of being combustible for WHMIS, GHS and 49 CFR.
Some USA suppliers may ship as Combustible - below.
Eastman Chemical Company does not classify DP as hazardous.*

U.S.A. 49 CFR	PIN	NA-1993
	Shipping Name	COMBUSTIBLE LIQUIDS N.O.S. (diethylene glycol monopropyl ether)
	Class	3
	Packing Group	none – combustible
Marine Pollutant		not a marine pollutant
ERAP Required		NO

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
Australia AICS	not listed
Japan MITI	on inventory
Korea ECL	not listed

Europe Classification Harmful



Europe Risk Phrases R: 36 – Irritating to eyes.
Europe Safety Phrase S: 25 – Avoid contact with eyes.

16. OTHER INFORMATION

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

Data from RTECS, HSDB (Haz. Substance Data Base), Cheminfo (CCOHS), IUCLID Datasheets (ESIS – European Chem. Substance Info. System), & others.

Preparation Date: January 2003 Revision Date: February 2007, March 2013

* Additional Information from SIDS Initial Assessment Profile, October 2005:

<http://webnet.oecd.org/Hpv/UI/handler.axd?id=e939ef34-4f9e-4d4e-907d-5d2fa9fb7f95>

** and from OECD (Canada) Ecological Categorization Results:

<http://webnet.oecd.org/CCRWEB/ChemicalDetails.aspx?ChemicalID=c13df440-7997-4515-b5e1-f529844102be>

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