



Safety Data Sheet

1. PRODUCT IDENTIFICATION

Name **Glycol Ether EP**
 Synonyms ethylene glycol monopropyl ether; ethylene glycol mono-n-propyl ether; 2-propoxyethanol; EP
 CAS# 2807-30-9
 Europe EC# 220-548-6
 Product Uses solvent

2. HAZARDS

Quick Guide: combustible liquid, irritating to the eyes, *toxic effects may occur as a result of skin absorption*

Canada – WHMIS

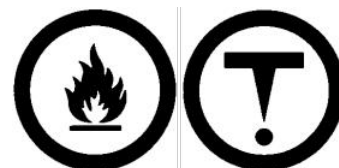
Key:

B 3, D 1B, 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 – 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
Glycol Ether EP	100%	25 / 110 (skin)	1175	875	1530

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 57°C / 135°F (closed cup)
 Autoignition Temperature 235°C / 455°F
 Flammable Limits 1.3% – 15.8%
 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 not known; 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.

In common with other glycol ethers, this product may react with oxygen in the air to form explosive or flammable peroxides. Ensure that containers are full and tightly sealed. If prolonged storage of a part container is anticipated, flush headspace with dry nitrogen gas prior to sealing.

Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or 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 all 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	25ppm / 110mg/m ³ (skin)
ACGIH TLV	not listed – <i>Dow Chemical recommends 20ppm / 85mg/m³ (skin)</i>
OSHA PEL	not listed – <i>Dow Chemical recommends 20ppm / 85mg/m³ (skin)</i>
STEL	not listed – <i>Dow Chemical recommends 60ppm / 255mg/m³ (skin)</i>
Ventilation	mechanical ventilation may be required to control airborne titre; depending on handling procedures
Hands	nitrile or “Viton” gloves – <i>other types may also protect; consult supplier to confirm suitability</i>
Eyes	safety glasses with side shields – <i>always protect the eyes</i>
Clothing	wear impermeable (above) apron, boots, & long sleeves if there is any danger of splashing,

9. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless liquid with mild ether odour and a bitter taste
Odour Threshold	not known
Vapour Pressure	2.9mmHg / 0.39kPa (25°C / 77°F)
Evaporation Rate (<i>Butyl Acetate = 1</i>)	0.2
Vapour Density (air = 1)	3.6
Boiling Range	150°C / 302°F
Freezing Point	-90°C / -130°F
Specific Gravity	0.912 (20/20°C)
Water Solubility	complete
Also soluble in	most organic solvents
Viscosity	not known – estimated as 3centipoise (25°C / 77°F)
pH	none – (<i>does not liberate hydrogen ions when dissolved</i>)
Conversion Factor	1ppm = 4.25mg/m ³
Molecular Weight	104grams per mole

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10. REACTIVITY

Dangerously Reactive With	strong oxidising agents
Also Reactive With	strong alkalis, strong acids
Stability	stable; will not polymerize
Decomposes in Presence of	not known
Decomposition Products	apart from Hazardous Combustion Products, aldehydes & organic acids may form in fire
Sensitive to Mechanical Impact	no

11. TOXICITY

Effects, Acute Exposure

Skin Contact	may be a slight irritant, possibly causing local redness
Skin Absorption	<i>yes; toxic effects may occur by this route</i>
Eye Contact	may be a severe eye irritant from animal tests; any injury is not permanent
Inhalation	vapour may irritate; exposing rabbits to saturated vapour for 7 hours caused blood in urine, but no other injury
Ingestion	not known – not a route of industrial exposure

Effects, Chronic Exposure

General	prolonged exposure may cause dermatitis & skin cracking; may damage liver & kidneys
Sensitising	not a sensitiser in humans or animals
Carcinogen/Tumorigen	not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect	fetotoxic in rodents at doses also causing maternal symptoms; no known effect in humans
Mutagen	no known effect on humans or animals
Synergistic With	not known
LD ₅₀ (oral)	3090mg/kg (rat)*, 1775 & 2260mg/kg (mouse)*, 2200mg/kg (guinea pig)*
LD ₅₀ (skin)	875 & 1337*mg/kg (rabbit), >1000, 2045 & 5650* (guinea pig)
LC ₅₀ (inhalation)	1530ppm (mouse), 2130* & 2175ppm (rat)

12. ECOLOGICAL INFORMATION

Bioaccumulation	water soluble – not a bioaccumulator
Biodegradation	100% biodegradation in 20 days (<i>Dow Chemical</i>); 66% in 10 days*
Abiotic Degradation	reacts with atmospheric hydroxyl radicals; estimated ½-life in air is 18 hours*
Mobility in soil, water	water soluble; moves readily & rapidly in soil and water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	>1000mg/litre (Pimephelas promelas – <i>Dow</i>), >5000mg/litre (Pimephelas promelas)*
EC ₅₀ (Crustacea, 24hr)	>5000mg/litre (Daphnia magna – <i>Dow</i>), >5000mg/litre (Daphnia magna)*
NOEC (Algae)	100mg/litre (Pseudokirchneriella subcapitata)*
EC ₅₀ (Bacteria)	>1000mg/litre (bacteria unspecified – <i>Dow</i>), >1000mg/litre (“sewage sludge”)*

* **European Chemicals Dossier:** http://apps.echa.europa.eu/registered/data/dossiers/DISS-b2c97e4b-c3d2-4554-e044-00144f67d031/AGGR-e23e3b42-b3ff-4703-8025-e8d42a06d15d_DISS-b2c97e4b-c3d2-4554-e044-00144f67d031.html#AGGR-e23e3b42-b3ff-4703-8025-e8d42a06d15d

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 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>

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14. TRANSPORT CLASSIFICATION

Canada TDG AND	PIN Shipping Name	UN-1993 flammable liquids N.O.S. (ethylene glycol propyl ether)
U.S.A. 49 CFR	Class Packing Group	3 III
Marine Pollutant ERAP Required		not a marine pollutant 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
Europe Classification	Harmful – irritating



Europe Risk Phrases
Europe Safety Phrases

R: 10, 21, 36 – Flammable. Harmful in contact with skin. Irritating to eyes.
S: 26, 36/37, 46 – In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves. If swallowed, seek medical advice immediately and show this document.

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. Ethylene glycol monopropyl ether is produced, as an intermediate or final product, by process units covered under this subpart.

16. OTHER INFORMATION

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

Preparation Date: **February 2010** Revision Date: **February 2013**

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