Established in 1981 megaloid laboratories limited
2221 Ninth Line | Oakville, ON L6H 7G7
Phone: 905-337-7411 | Fax: 905-337-1686
megaloid.ca

Safety Data Sheet

1. PRODUCT IDENTIFICATION

Name **Tripropylene Glycol**
Synonyms **propanol, [(1-methyl-1,2-ethanediyl)bis(oxy)]bis-; 2-(2-(2-hydroxypropoxy)propoxy)-1-propanol**
CAS# **24800-44-0**
Europe EC# **246-466-0**
Product Uses **brake & hydraulic fluids, resin mfg., plasticiser; solvent in pharmaceuticals, insecticides**

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

2. HAZARDS

GHS Class **NOT HAZARDOUS**
(Category)
Signal Words

Hazard Statements

Canada – WHMIS **not controlled under WHMIS**
Key: ***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*

3. COMPOSITION

	%	TWAEV / TLV ppm / mg/m^3	LD_{50} (mg/kg) ORAL	LD_{50} (mg/kg) SKIN	LC_{50} ppm INHALATION
Tripropylene Glycol	100%	not listed	3000	>16,300	>>10.6

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 non-toxic substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

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5. FIRE FIGHTING & FLAMMABILITY

Flash Point	141°C / 285°F (closed cup)
Autoignition Temperature	not known
Flammable Limits	not known
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Firefighting Precautions	as for flammables sustaining fire; otherwise treat as an oil fire; firefighters must wear SCBA
Static Charge Accumulation	cannot accumulate a static charge

6. ACCIDENTAL RELEASE MEASURES

Leak Precaution	dyke to control spillage and prevent environmental contamination
Handling Spill	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

Tripropylene glycol is hygroscopic and absorbs moisture from the air. Store in a dry environment, away from open flame and oxidising agents.

Never cut, drill, weld or grind on or near this container. Avoid 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	Ontario STEV	not listed
ACGIH TLV	not listed	ACGIH STEL	not listed
OSHA PEL	not listed	OSHA STEL	not listed
Ventilation	no special ventilation required; if product mist is created, mechanical exhaust ventilation should be installed to clear any visible haze		
Hands	no special protective gloves required		
Eyes	safety glasses with side shields – *always protect the eyes*		
Clothing	no special protective clothing required		

9. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless, sweet, hygroscopic, viscous liquid with no odour
Odour Threshold	not known – odourless
Vapour Pressure	<0.075mmHg / <0.01kPa (20°C / 68°F); 1mmHg / 0.13kPa (96°C / 200°F)
Evaporation Rate (*Butyl Acetate = 1*)	not known – not considered volatile
Vapour Density (air = 1)	6.6
Boiling Range	263-280°C / 505-536°F
Freezing Point	-30°C / -22°F – also reported as -20°C / -4°F – supercools readily
Specific Gravity	1.019 (25/25°C)
Water Solubility	complete
Also soluble in	most organic solvents, except aliphatic hydrocarbons
Log $P_{O/W}$ (Octanol/H_2O partition)	0.418[1]
Viscosity	107centipoise (25°C / 77°F)
pH	none – (*does not liberate hydrogen ions when dissolved*)
Conversion Factor	128ppm = 1mg/litre
Molecular Weight	192grams per mole

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10. REACTIVITY

Dangerously Reactive With	strong oxidising agents
Also Reactive With	none known
Stability	stable; will not polymerize
Decomposes in Presence of	not known
Decomposition Products	none apart from Hazardous Combustion Products
Sensitive to Mechanical Impact	no
Sensitive to Mechanical Impact	no

11. TOXICITY

Effects, Acute Exposure

Skin Contact	little to no effect
Skin Absorption	slight; no toxic effects possible by this route
Eye Contact	may be slightly irritating, will not damage eyes
Inhalation	unlikely route of entry for a viscous product with low vapour pressure
Ingestion	unknown – virtually without effect

Effects, Chronic Exposure

General	little effect; 1000mg/kg/day elevated liver weight in rats – *not relevant to industrial exposure*
Sensitising	not a sensitiser
Carcinogen/Tumorigen	not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect in humans or animals
Mutagen	not known, no effect anticipated
Synergistic With	not known
Oral LD_{50}	3000mg/kg (rat) – *values from 3000mg/kg to 12,000mg/kg have been reported*
Skin LD_{50}	>16,320mg/kg (rabbit) – *no symptoms of toxicity at this dose*[1]
Inhalation LC_{50}	>>10.6ppm (rat) – *no symptoms of toxicity at this dose*[1]

12. ECOLOGICAL INFORMATION

Bioaccumulation	not a bioaccumulator
Biodegradation	biodegradation in sewage sludge: 84% in 28 days (*DIN 38312 L 25 – Zahn-Wellens test*); 60% in 28 days (*sewage sludge*)[1] (OECD 310 F); 46% in 64 days (*natural sea water* – OECD 306); by analogy with dipropylene glycol (*3% in 28 days*), tripropylene glycol is hardly biodegradeable
Abiotic Degradation	reacts with atmospheric hydroxyl radicals; ½-life 3-14 hours
Mobility in soil, water	water soluble; moves readily in soil and water
Aquatic Toxicity	
LC_0 (Fish, 96hr)	>10,000mg/litre (Brachydanio rerio) – *an EC_0 – no mortality, not toxic at 10 grams per litre*
	>1000mg/litre (Oryzias latipes)[1]
LC_{50} (Crustacea, 48hr)	>10,000mg/litre (Daphnia magna), >1000mg/litre (Daphnia magna, 24hr)[1]
EC_{10} (Algae, 72hr)	>5000mg/litre (Scenedesmus subspicatis) – *this is an EC_{10}, not an EC_{50} – very little effect*
EC_{50} (Bacteria, 24hr)	>50,000mg/litre ("*activated sludge*")
EC_{20} (Bacteria, 3hr)	>1000mg/litre ("*activated sludge*")[1]

13. DISPOSAL

Waste Disposal	**do not flush to sewer**, recycle if possible, if local regulations permit, may be put in sanitary landfill, may be incinerated in approved facility after mixing with a flammable solvent
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***

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14. TRANSPORT CLASSIFICATION

Canada TDG	**PIN**	**UN - not regulated for transport**
AND	**Shipping Name**	**not regulated for transport**
U.S.A. 49 CFR	**Class & Packing Group**	**not regulated for transport**
Marine Pollutant		not a marine pollutant
ERAP Required		**NO**

15. REGULATIONS

Canada DSL	**on inventory**
U.S.A. TSCA	**on inventory**
Europe EINECS	**on inventory**

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: **November 2003** Revision Date: **September 2006, September 2009, September 2012, November 2013***

(1) European Chemicals Agency (EChA) Dossier [(methylene)bis(oxy)]dipropanol:
http://apps.echa.europa.eu/registered/data/dossiers/DISS-9eb8dc7e-a35e-0c67-e044-00144f67d031/AGGR-42b62907-fd05-4bf3-b405-3d15c12cc10f_DISS-9eb8dc7e-a35e-0c67-e044-00144f67d031.html#AGGR-42b62907-fd05-4bf3-b405-3d15c12cc10f

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