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**RDC**  
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## 1. PRODUCT IDENTIFICATION

**Name:** *Dipropylene Glycol*

**Synonyms:** *oxydipropanol, oxybispropanol*

**CAS#** 25265-71-8; alternate CAS# 110-98-5

**Product Uses:** *solvent in dyes, coatings and inks; hydraulic fluid, theatrical fogs; manufacture of unsaturated polyester resins & plasticizers, agricultural solvent, etc.*

**Supplier Identifier:** *Megaloid Laboratories Limited  
5515 North Service Road, Suite 306  
Burlington, Ontario, Canada  
L7L 6G4  
Phone: 905-337-7411 / Fax: 905-337-1686*

### EMERGENCY INFORMATION

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

## 2. HAZARDS

<b>GHS Class (category)</b>	<b>Not Hazardous</b>	
<b>Signal Word</b>	<b>None</b>	
<b>Hazard Statements</b>	<b>None</b>	

### GHS Precautionary Statements for Labelling

NONE

## 3. COMPOSITION

Chemical Name:	CAS No.	%	Other Identifiers
<i>Oxydipropanol</i> <i>alternate</i>	25265-71-8 <i>110-98-5</i>	100	<i>EC # 246-770-3</i> <i>EC # 203-821-4</i>

## 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 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**

*Foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet spreads flames*

### 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.*

### Static Charge Accumulation

*Cannot accumulate a static charge on agitation or pumping*

## 6. ACCIDENTAL RELEASE MEASURES

### **Serious Fire Potential:**

*blanket spill with foam as a precaution against accidental ignition. Take extreme care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.*

### Personal Precautions, Protective Equipment, and Emergency Procedures

*Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area.*

### Environmental Precautions

*If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.*

### 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 aluminum 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

Keep containers, empty or full, tightly sealed unless in use. Never cut, drill, weld or grind on or near this container. Avoid prolonged contact with skin & wash work clothes frequently. An eye bath should be available near the workplace.

### Conditions for Safe Storage

Store & use in a cool, dry environment, away from sources of ignition & substances named in Part 10.

## 8. EXPOSURE CONTROL & PERSONAL PROTECTION

### Xylene:

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

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

<b>Ventilation</b>	<i>No special ventilation system required.</i>
<b>Hands</b>	<i>No special protective gloves required; butyl or nitrile gloves offer 8-hours resistance.</i>
<b>Eyes</b>	<i>Safety glasses with side shields – always protect the eyes.</i>
<b>Clothing</b>	<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.

## 9. PHYSICAL PROPERTIES

<b>Appearance</b>	<i>Clear, colourless, hygroscopic, moderately viscous liquid.</i>
<b>Odour</b>	<i>Odourless</i>
<b>Odour threshold</b>	<i>not known – odourless</i>
<b>pH</b>	<i>none – (does not liberate hydrogen ions when dissolved)</i>
<b>Melting Point/Freezing Point</b>	<i>-40°C / -40°F – supercools readily</i>
<b>Initial Boiling Point/Range</b>	<i>222-227°C / 432-441°F – mixture of isomers present “widens” the boiling point</i>
<b>Flash Point</b>	<i>118°C-120°C / 244°F- 248°F (TAG closed cup); 124°C / 255°F (closed cup), 130°C / 266°F (closed cup)</i>
<b>Evaporation Rate</b>	<i>not known – not considered volatile (Butyl Acetate =1)</i>
<b>Flammability ( Solid, Gas)</b>	<i>Not Available</i>
<b>Upper/Lower Flammability or Explosive Limit</b>	<i>2.2% – 11.5%</i>

<b>Vapour Pressure</b>	0.032mmHg / 0.004kPa (25°C / 77°F), also 0.0017mmHg / 0.0013kPa
<b>Vapour Density (air = 1)</b>	4.6
<b>Relative Density (water = 1)</b>	1.02 at 20 °C / 20 °C
<b>Water Solubility</b>	Complete. Also soluble in most organic solvents, limited solubility in hydrocarbons
<b>Partition Coefficient, n-Octanol/Water (Log Kow)</b>	-0.462
<b>Auto-ignition Temperature</b>	310°C / 590°F; also 332°C / 630°F & 350°C / 660°F
<b>Conversion Factor</b>	1ppm = 5.5mg/m <sup>3</sup>
<b>Viscosity</b>	0.75 centipoises at 20 °C (dynamic)
<b>Physical State</b>	Liquid
<b>Molecular Weight</b>	134 grams per mole
<b>Molecular Formula</b>	C6H14O3

## 10. REACTIVITY

**Dangerously Reactive** with strong oxidising agents, calcium hypochlorite, perchloric acid.

**Also Reactive** with strong alkalies at elevated temperature cause the release of hydrogen gas – reaction may be violent; may soften polyvinyl chloride (PVC).

### Chemical Stability

Stable under recommended storage conditions.

### Possibility of Hazardous Reactions

Polymerization will not occur.

### Conditions to Avoid

Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

### Mechanical Impact

not sensitive

## 11. TOXICITY

Acute Toxicity	
<b>LD<sub>50</sub> (oral)</b>	14,850, 15,000 & 16,200mg/kg (rat), 17,600 & 18,050mg/kg (guinea pig)
<b>LD<sub>50</sub> (skin)</b>	above 5010 & 20,500mg/kg (rabbit) - no mortality in these tests
<b>LC<sub>50</sub> (inhalation)</b>	above 5995-7975mg/m <sup>3</sup> (rat & guinea pig), >12,770mg/m <sup>3</sup> (rat) – no mortality observed

### Skin Corrosion/Irritation

little to no effect; “not irritating”.

### Serious Eye Damage/Irritation

*Little to no effect, "not irritating".*

### STOT (Specific Target Organ Toxicity) - Single Exposure

#### Inhalation

*Mist: little to no effect; does not readily form a vapour.*

#### Skin Absorption

*Very slight; no toxic effects likely by this route.*

#### Ingestion

*Little to no effect.*

### STOT (Specific Target Organ Toxicity) - Repeated Exposure

#### Respiratory and/or Skin Sensitization

*no known effect in humans or animals*

#### Carcinogenicity

*no known effect in humans or animals.*

### Reproductive Toxicity

#### Development of Offspring

*no known effect in humans or animals.*

#### Sexual Function and Fertility

*no known effect in humans or animals.*

#### Germ Cell Mutagenicity

*no known effect in humans or animals.*

## 12. ECOLOGICAL INFORMATION

<b>Bioaccumulation</b>	<i>readily metabolized by animals; cannot bioaccumulate.</i>
<b>Persistence and Degradability</b>	<b>Biodegradation</b> - <i>biodegrades readily in the presence of oxygen; one test showed 64%, 84% &amp; 93% in 28 days (acclimated bacteria), 70-90% in 24 hours in 2 tests (industrial sewage sludge) also 37% recorded in 20 days</i> <b>Abiotic Degradation</b> - <i>reacts with atmospheric hydroxyl radicals; estimated ½-life in air is 4<sup>1</sup> &amp; 12 hours</i>
<b>Mobility in soil, water</b>	<i>water soluble; moves readily in soil and water.</i>
<b>Aquatic Toxicity</b>	
<b>LC50 (Fish, 24hr)</b>	<i>&gt;5000mg/litre (Carassius auratus), 46,500mg/litre (Pimephales promelas), &gt;1000mg/litre (Oryzias latipes)</i>
<b>NOEC (Fish, 72hr)</b>	<i>100mg/litre (Pimephelas promelas)</i>
<b>EC50 (Crustacea, 48hr)</b>	<i>&gt;100 &amp; &gt;109mg/litre (Daphnia magna)</i>
<b>EC50 (Algae,72hr)</b>	<i>&gt;100mg/litre (Desmodesmus subspicatus)</i>
<b>EC50 (Bacteria)</b>	<i>15,400mg/litre (Pseudomonas putida) &amp; &gt;1000mg/litre (Pseudomonas putida).</i>
<b>NOTE</b>	<i>Exceptionally low aquatic toxicity</i>

## 13. DISPOSAL

### Waste Disposal

**Do not flush to sewer, recycle if possible, local regulations may permit disposal of this non-hazardous substance in the sanitary landfill, may be incinerated in approved facility after mixing with a suitable flammable waste**

### 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

<b>Canada TDG AND U.S.A. 49 CFR</b>	<b>PIN Shipping Name Class &amp; Packing Group</b>	not regulated for transport
<b>Marine Pollutant ERAP Required Reportable Quantity E R G No.</b>	Not a Marine Pollutant NO NO NO	

#### 15. REGULATIONS

<b>Canada DSL U.S.A. TSCA Europe EINECS</b>	On Inventory On Inventory On Inventory
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#### U.S.A. Regulations

**Allowable Tolerances:** Residues of dipropylene glycol 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 or to raw agricultural commodities after harvest. Use: Solvent, cosolvent. Limit: None.

**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. Dipropylene glycol is produced, as an intermediate or a final product, by process units covered under this subpart.

**FIFRA Requirements:** Residues of dipropylene glycol 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 or to raw agricultural commodities after harvest. Use: Solvent, cosolvent. Limit: None. The Agency has completed its assessment of the dietary, drinking water, residential, ecological and occupational risks associated with the use of pesticide products containing the active ingredients propylene glycol and dipropylene glycol. Based on a review of these data, the Agency has sufficient information on the human health and ecological effects of propylene glycol and dipropylene glycol to make a decision as part of the tolerance reassessment process under FFDCFA and reregistration under FIFRA, as amended by FQPA. The Agency has determined that propylene glycol and dipropylene glycol containing products are eligible for reregistration. As the federal pesticide law FIFRA directs, EPA is conducting a comprehensive review of older pesticides to consider their health and environmental effects and make decisions about their continued use. Under this pesticide reregistration program, EPA examines newer health and safety data for pesticide active ingredients initially registered before November 1, 1984, and determines whether the use of the pesticide does not pose unreasonable risk in accordance to newer safety standards, such as those described in the Food Quality Protection Act of 1996.

Pesticides for which EPA had not issued Registration Standards prior to the effective date of FIFRA '88 were divided into three lists based upon their potential for human exposure and other factors, with List B containing pesticides of greater concern than those on List C, and with List C containing pesticides of greater concern than those on List D. Dipropylene glycol is found on List C. Case No: 3126; Pesticide type: insecticide, fungicide, antimicrobial; Case Status: OPP is reviewing data from the pesticide's producers regarding its human health and/or environmental effects, or OPP is determining the pesticide's eligibility for reregistration and developing the RED document.; Active ingredient (AI): dipropylene glycol; Data Call-in (DCI) Date(s): 08/02/93; AI Status: The producers of the pesticide have made commitments to conduct the studies and pay the fees required for reregistration, and are meeting those commitments in a timely manner.

**FDA Requirements:** Dipropylene glycol is an indirect food additive for use only as a component of adhesives. Resinous and polymeric coatings may be safely used as the food-contact surface of articles intended for use in producing, manufacturing, packing, processing, preparing, treating, packaging, transporting, or holding food, in accordance with the following prescribed conditions: (a) The coating is applied as a continuous film over one or both sides of a base film produced from one or more of the basic olefin polymers complying with section 177.1520 of this chapter. The base polyolefin film may contain optional adjuvant substances permitted for use in polyolefin film by applicable regulations in parts 170 through 189 of this chapter. (b) The coatings are formulated from optional substances which are: (1) Substances generally recognized as safe for use in or on food. (2) Substances the use of which is permitted under applicable regulations in parts 170 through 189 of this chapter, by prior sanctions, or approvals. (3) Substances identified in this paragraph (b)(3) and subject to such limitations as are provided. Dipropylene glycol is included on this list.

### International regulations List

Australia: All components are listed or exempted.  
 China: All components are listed or exempted.  
 Japan:  
     Japan inventory (ENCS): All components are listed or exempted.  
     Japan inventory (ISHL): All components are listed or exempted.  
 Republic of Korea: All components are listed or exempted.  
 New Zealand: All components are listed or exempted.  
 Philippines: All components are listed or exempted.

## 16. OTHER INFORMATION

<b>NFPA RATING</b>	<b>Health 1</b>	<b>Flammability 1</b>	<b>Instability 0</b>
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**Prepared for** Megaloid Laboratories **by** Richard Koscher  
**Preparation Date:** January 2005  
**Revision Dates:** Jan 2008, Jan 2011, Nov 2013, Nov 2016, March 2019

<b>Key to Abbreviations</b>	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
<b>References</b>	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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