



5515 North Service Rd. #306
Burlington, Ontario L7L 6G4

Phone: 905-337-7411
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megaloid.ca



1. PRODUCT IDENTIFICATION

Name: *Glycol Ether DB*

Synonyms: *2-(2-butoxyethoxy) ethanol, DB, Dowanol DB, Ektasolve DB & others*

CAS# 112-34-5

Product Uses: *solvent for inks, baked enamel paints, cleaners, latex paints, etc.*

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

EMERGENCY INFORMATION: **Call CHEMTREC @ (800) 424-9300 (CCN # 693764)**

2. HAZARDS

GHS Class <i>(category)</i>	Acute oral <i>(4)</i>	Acute skin <i>(5)</i>	Eye irritant <i>(2A)</i>
Signal Word	WARNING		
Hazard Statements	<i>highly flammable (H302)</i>	<i>May be harmful in contact with skin (H313)</i>	<i>Causes serious eye irritation (H319)</i>

GHS Precautionary Statements for Labelling

Prevention	
P210	Keep away from flames and hot surfaces.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear eye protection, protective gloves and clothing of butyl rubber
Response	
P305, P351, P338	If in eyes, rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P337, P313	If eye irritation persists get medical advice or attention.
P370, P378	In case of fire use alcohol-resistant foam to extinguish.
Storage	
P403 + P235	Store in a well-ventilated place. Keep cool.

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Disposal	
P501	Dispose of contents and container in accordance with local, regional, national and international regulations.

3. COMPOSITION

Chemical Name:	CAS No.	%	Other Identifiers
2-(2-butoxyethoxy) ethanol	112-34-5	100	EC# 203-961-6

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 thoroughly 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, CO₂, water fog or spray, water jet may spread flames.

Combustion Products

*Carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments
Not sensitive to static discharge.*

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 aluminium 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

Avoid breathing product vapour. Use with adequate ventilation. If dealing with a spill & ventilation is impossible or impractical, wear a suitable respirator with an organic vapour canister.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

Conditions for Safe Storage

Store in a dry environment, away from sources of ignition, heat and oxidising agents. Ensure that containers, whether empty or full, are tightly sealed unless in use.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

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

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

Ventilation	<i>Not normally required if product is used as directed.</i>
Hands	<i>Nitrile or "Viton" gloves recommended - other types also protect; confirm suitability with supplier. Special protective clothing is not generally necessary.</i>
Eyes	<i>Safety glasses with side shields – always protect the eyes.</i>
Clothing	<i>Wear chemical protective clothing e.g. gloves, aprons, boots.</i>

9. PHYSICAL PROPERTIES

Appearance	<i>Colourless, viscous.</i>
Odour	<i>Odourless</i>
Odour threshold	<i>Not available</i>
pH	<i>Neutral</i>
Melting Point/Freezing Point	<i>-68 °C (-90 °F) (freezing)</i>
Initial Boiling Point/Range	<i>231 °C (448 °F)</i>
Flash Point	<i>105-114 °C (221 - °F) (closed cup)</i>
Evaporation Rate	<i>0.002 (n-butyl acetate = 1)</i>
Flammability (Solid, Gas)	<i>Not Available</i>
Upper/Lower Flammability or Explosive Limit	<i>24.6% (upper); 0.9% (lower)</i>
Vapour Pressure	<i>0.02 mm Hg at 20 °C</i>
Vapour Density (air = 1)	<i>5.6</i>
Relative Density (water = 1)	<i>0.954 at 20 °C</i>
Solubility	<i>Soluble in water; Also soluble in oils, ethers, alcohols, ketones, esters</i>
Partition Coefficient, n-Octanol/Water (Log Kow)	<i>0.15</i>
Auto-ignition Temperature	<i>204 °C (399 °F)</i>
Decomposition Temperature	<i>Not Available</i>
Viscosity	<i>6.5 centipoises at 59 °F (dynamic)</i>
Physical State	<i>Liquid</i>
Molecular Weight	<i>162 grams per mole</i>
Molecular Formula	<i>C₈H₁₈O₃</i>

10. REACTIVITY

Dangerously Reactive *with: strong oxidising agents.*

Also Reactive *with: none known*

Chemical Stability

Stable; will not polymerize.

Possibility of Hazardous Reactions

None known.

Incompatible materials : *Perchloric acid*

11. TOXICITY

Prolonged exposure may cause dermatitis; systemic effects of prolonged inhalation are minor & subtle.

Acute Toxicity	
LD₅₀ (oral)	<i>4500–9625mg/kg (rat), 2400–5525mg/kg (mouse), 1720–2310mg/kg (guinea pig), 2200mg/kg (rabbit)</i>
LD₅₀ (skin)	<i>>2765mg/kg (rabbit) – no mortality seen in this test</i>
LC₅₀ (inhalation)	<i>none – exposure of rats to DB vapour (saturated at 100°C & cooled to 20°C.) for 7hrs caused no adverse symptoms or mortality</i>

Skin Corrosion/Irritation

Some skin absorption; no toxic effects likely by this route. There is limited evidence of very mild irritation.

Serious Eye Damage/Irritation

Human experience shows serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Headache, dizziness, intoxication possible, low vapour pressure makes this unlikely.

Skin Absorption

Yes; no toxic effects likely by this route except possibly in very young children.

Ingestion

Headache, dizziness, intoxication; in severe cases, cyanosis (blue colouring), low blood pressure, & unconsciousness.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Do not breathe vapours. If inhaled remove person to fresh air and keep comfortable for breathing.

Respiratory and/or Skin Sensitization

Not known to be a respiratory sensitizer.

Carcinogenicity

Not a carcinogen. IARC: Not specifically listed. ACGIH®: Not specifically designated.

NTP: Not specifically listed. OSHA: Not specifically listed.

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 on humans or animals.

12. ECOLOGICAL INFORMATION

Bioaccumulation	<i>rapidly excreted and/or metabolised by all living creatures; cannot bioaccumulate</i>
Persistence and Degradability	Biodegradation - <i>biodegrades readily in presence of oxygen; 47% to 88% (several 28-day tests, different procedures); 66% & 85% in 28 days¹; other tests show 100% biodegradability in 6-9 days.</i>
	Abiotic Degradation -

	<i>reacts with atmospheric hydroxyl radicals; estimated ½-life in air is 7hrs & 11hrs</i>
Mobility in soil, water	<i>Water soluble; moves readily & rapidly in soil and water.</i>
Aquatic Toxicity	
LC50 (Fish, 96hr)	<i>1300mg/litre (Lepomis macrochirus), 2000mg/litre (Menidia beryllina), 1805-2300 & 2700mg/litre (Leuciscus idus, 48hr), 1150mg/litre (Poecilia reticulata, 168hr)</i>
EC50 (Crustacea, 24hr)	<i>2850-3300mg/litre (Daphnia magna, various tests)</i>
EC3 (Algae)	<i>53mg/litre (Microcystis aeruginosa), 1000mg/litre (Scenedesmus quadricauda)</i>
EC10 (Bacteria)	<i>1170mg/litre (Pseudomonas putida)</i>

13. DISPOSAL

Water Disposal

Do not flush to sewer, recycle solvent if possible, local regulations may permit disposal in 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

Canada TDG AND U.S.A. 49 CFR	PIN Shipping Name Class & Packing Group	Not regulated for transport
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Marine Pollutant ERAP Required Reportable Quantity Emergency Response Guide No.	Not a Marine Pollutant NO NO NO
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Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

15. REGULATIONS

Canada DSL U.S.A. TSCA Europe EINECS	On Inventory On Inventory On Inventory
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Canadian Regulations

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CEPA - National Pollutant Release Inventory (NPRI)

Part 5.

U.S.A. Regulations

Allowable Tolerances: Residues of diethylene glycol monobutyl ether are exempted from the requirement of tolerance when used as a deactivator for formulations used before crop emerges from soil, stabilizer in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.

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

TSCA Requirements: Manufacturers and processors of diethylene glycol monobutyl ether required to conduct subchronic toxicity, neurotoxicity/behavioral effects, developmental neurotoxicity, and pharmacokinetic test under TSCA section 4.

FIFRA Requirements: Residues of diethylene glycol monobutyl ether are exempted from the requirement of a tolerance when used as a deactivator for formulations used before crop emerges from soil, stabilizer in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops only.

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

15. OTHER INFORMATION

NFPA RATING	Health 1	Flammability 2	Instability 0
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Prepared for Megaloid Laboratories **by** Richard Koscher
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Key to Abbreviations	ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer 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
References	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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