

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

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1. IDENTIFICATION

PRODUCT NAME: GLYCOL ETHER DPM
CAS NO: 34590-94-8
PROPER NAME: DIPROPYLENE GLYCOL MONOMETHYL ETHER

2. HAZARDS IDENTIFICATION

CAUTION! COMBUSTIBLE LIQUID AND VAPOR. MAY CAUSE ANESTHETIC EFFECTS. KEEP UPWIND OF SPILL. ISOLATE AREA

Hazard Rating System			
NFPA	Health	Fire	Reactivity
	1	2	0

OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Health Effects

Eye Contact: May cause slight temporary eye irritation. Corneal injury is unlikely.

Skin Contact: Prolonged exposure not likely to cause significant skin irritation.

Skin Absorption: Prolonged skin contact with very large amounts may cause dizziness or drowsiness.

Inhalation: Excessive exposure may cause irritation to upper respiratory tract (nose and throat). Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Aspiration hazard: Based on physical properties, not likely to be an aspiration hazard.

Effects of Repeated Exposure: Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Reproductive Effects: For similar material(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

3. COMPOSITION

COMPONENT	CAS #	AMOUNT BY WEIGHT
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4. FIRST AID MEASURES

Description of first aid measures

General advice: First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin Contact: Wash skin with plenty of water.

Eye Contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of immediate medical attention and special treatment needed

Maintain adequate ventilation and oxygenation of the patient. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE FIGHTING MEASURES

Suitable extinguishing media

Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Special hazards arising from the substance or mixture

Hazardous 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.

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. Move container from fire area if this is possible without hazard. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Isolate area. Refer to Section 7, Handling, for additional precautionary measures. Keep unnecessary and unprotected personnel from entering the area. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Handling

General Handling: Keep away from heat, sparks and flame. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. Avoid breathing vapor. Use with adequate ventilation. Keep container closed. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Storage

Store in the following material(s): Carbon steel. Stainless steel. Phenolic lined steel drums. Do not store in: Aluminum. Copper. Galvanized iron. Galvanized steel. See Section 10 for more specific information.

Shelf life: Use within, Steel drums. 24 Months

Bulk 6 Months

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

EXPOSURE LIMITS

COMPONENT	LIST	TYPE	VALUE
Dipropylene Glycol monomethyl ether	OSHA TableZ-1	PEL	600 mg/m ³ 100 ppm SKIN
	ACGIH	TWA	100 ppm SKIN
	ACGIH	TWA	150 ppm SKIN

A "skin" notation following the inhalation exposure guideline refers to the potential for dermal absorption of the material including mucous membranes and the eyes either by contact with vapors or by direct skin contact.

It is intended to alert the reader that inhalation may not be the only route of exposure and that measures to minimize dermal exposures should be considered.

Personal Protection

Eye/Face Protection: Use safety glasses (with side shields).

Skin Protection: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task.

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Respiratory Protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most

conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Ingestion: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

Engineering Controls

Ventilation: 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. Local exhaust ventilation may be necessary for some operations.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical State Liquid.

Color Colorless

Odor Mild

Odor Threshold No test data available

pH Not applicable

Melting Point Not available

Freezing Point -83 °C (-117 °F) Literature

Boiling Point (760 mmHg) 189.6 °C (373.3 °F) Literature

Flash Point - Closed Cup 75 °C (167 °F) Setaflash Closed Cup ASTM D3278

Evaporation Rate (Butyl Acetate = 1) No test data available

Flammability (solid, gas) Not applicable to liquids

Flammable Limits In Air

Lower: 1.1 %(V) Setaflash Closed Cup ASTM D3278

Upper: 14 %(V) Setaflash Closed Cup ASTM D3278

Vapor Pressure 10 mmHg @ 75.1 °C

Vapor Density (air = 1) 5.11 @ 20 °C

Specific Gravity (H₂O = 1) 0.951 25 °C/25 °C

Solubility in water (by weight) 100 % @ 25 °C

Partition coefficient, n-octanol/water (log Pow) 1.01 Measured

Autoignition Temperature 207 °C (405 °F)

Decomposition Temperature No test data available

Dynamic Viscosity 3.7 mPa.s @ 25 °C

Kinematic Viscosity 4.55 mm²/s @ 20 °C

Explosive properties Not explosive

Oxidizing properties No

Molecular Weight 148.2 g/mol

Henry's Law Constant (H) 1.6E-07 atm*m3/mole; 25 °C Estimated.

10. STABILITY AND REACTIVITY

Reactivity

No dangerous reaction known under conditions of normal use.

Chemical stability

Stable under recommended storage conditions. See Storage, Section 7.

Possibility of hazardous reactions

Polymerization will not occur.

Conditions to Avoid: Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Ketones. Organic acids.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion

LD50, rat > 5,000 mg/kg

Dermal

LD50, rabbit 9,510 mg/kg

Inhalation

No deaths occurred at this concentration. LC50, 7 h, Vapor, rat 3.35 mg/l

Eye damage/eye irritation

May cause slight temporary eye irritation. Corneal injury is unlikely.

Skin corrosion/irritation

Prolonged exposure not likely to cause significant skin irritation.

Sensitization

Skin

Did not cause allergic skin reactions when tested in humans.

Respiratory

No relevant data found.

Repeated Dose Toxicity

Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Chronic Toxicity and Carcinogenicity

For similar material(s): Did not cause cancer in laboratory animals.

Developmental Toxicity

Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive Toxicity

For similar material(s): In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

Genetic Toxicology

In vitro genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

Toxicity

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

Fish Acute & Prolonged Toxicity

LC50, *Poecilia reticulata* (guppy), static test, 96 h: > 1,000 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, *Daphnia magna* (Water flea), static test, 48 h, lethality: 1,919 mg/l

LC50, *Crangon crangon* (shrimp), semi-static test, 96 h: > 1,000 mg/l

Aquatic Plant Toxicity

ErC50, *Pseudokirchneriella subcapitata* (green algae), static test, biomass growth inhibition, 96 h: > 969 mg/l

Aquatic Invertebrates Chronic Toxicity Value

Daphnia magna (Water flea), flow-through test, 22 d, NOEC: > 0.5 mg/l, LOEC: > 0.5 mg/l

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches > 70% biodegradation in OECD test(s) for inherent biodegradability).

OECD Biodegradation Tests:

BIODEGRADATION	EXPOSURE TIME	METHOD	10 DAY WINDOW
75%	28 D	OECD 301F Test	pass

Indirect Photodegradation with OH Radicals

RATE CONSTANT	ATMOSPHERIC HALF-LIFE	METHOD
5.00E-05 cm ³ /s	3.4 - 10.4 H	Estimated

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
0%	0%	31.6%	

Chemical Oxygen Demand: 2.02 mg/mg

Theoretical Oxygen Demand: 2.06 mg/mg

Bioaccumulative potential

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient, n-octanol/water (log Pow): 1.01 Measured

Mobility in soil

Mobility in soil: Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process., Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient, soil organic carbon/water (Koc): 0.28 Estimated.

Henry's Law Constant (H): 1.6E-07 atm*m³/mole; 25 °C Estimated.

13. DISPOSAL CONSIDERATIONS

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED

& UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

DOT Non-Bulk
NOT REGULATED

DOT Bulk
Proper Shipping Name: COMBUSTIBLE LIQUID, N.O.S.
Technical Name: DIPROPYLENE GLYCOL METHYL ETHER ISOMERS
Hazard Class: COMBUSTIBLE LIQUID ID Number: NA1993 Packing Group: PG III

IMDG
NOT REGULATED
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Product Name: POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6)ETHER Ship Type: 3
Pollution Category: Z

ICAO/IATA
NOT REGULATED

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Immediate (Acute) Health Hazard Yes
Delayed (Chronic) Health Hazard No
Fire Hazard Yes Reactive Hazard No
Sudden Release of Pressure Hazard No

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List:
The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

COMPONENT	CAS #	AMOUNT
Dipropylene glycol monomethyl ether	34590-94-8	>99.0%

Pennsylvania (Worker and Community Right-To-Know Act): Pennsylvania Special Hazardous Substances List:
To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)
This product contains no listed substances known to the State of California to cause cancer, birth defects or other reproductive harm, at levels which would require a warning under the statute.

US. Toxic Substances Control Act
All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30

CEPA - Domestic Substances List (DSL)

This product contains one or more substances which are not listed on the Canadian Domestic Substances List (DSL). Contact your sales or technical service representative for more information.

16. OTHER INFORMATION

Hazard Rating System

NFPA	Health	Fire	Reactivity
	1	2	0

Recommended Uses and Restrictions

Identified uses

Industrial solvent for cleaner and coating formulations.

CISCO urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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