

BRENTAG GLYCOL ETHER DPM



Material Safety Data Sheet The Dow Chemical Company

Product Name: DOWANOL® DPM GLYCOL ETHER

Issue Date: 12/01/2006
Print Date: 11 Dec 2006

The Dow Chemical Company encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. Product and Company Identification

Product Name:
DOWANOL® DPM GLYCOL ETHER

COMPANY IDENTIFICATION
The Dow Chemical Company
2030 Willard H. Dow Center
Midland, MI 48674
USA

Customer Information Number: 800-268-2438

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 989-638-4400
Local Emergency Contact: 989-638-4400

2. Hazards Identification

Emergency Overview

Color: Colorless
Physical State: Liquid
Odor: Mild
Hazards of product:

CAUTION! Combustible liquid and vapor. May cause anesthetic effects. Keep upwind of spill. Isolate area.

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.

* Indicates a Trademark

MORATTA, Maitland, January 03, 2007

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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. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury.

Effects of Repeated Exposure: In animals, effects have been reported on the following organs: Liver, Kidney. Symptoms of excessive exposure may be anesthetic or narcotic effects, dizziness and drowsiness may be observed.

3. Composition Information

Component	CAS #	Amount
Dipropylene glycol monomethyl ether	34590-94-8	> 99.0 %

4. First-aid measures

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.

Skin Contact: Wash skin with plenty of water.

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.

Ingestion: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.

Notes to Physician: 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

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.

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.

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.

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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.

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: 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.

Personal Precautions: 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.

7. Handling and Storage

Handling

General Handling: Avoid breathing vapor. Use with adequate ventilation. Keep container closed.
Other Precautions: 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. 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.

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Dipropylene glycol monomethyl ether	Dow IHG	TWA Aerosol	10 mg/m ³
	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm SKIN
	OSHA Table Z-1	PEL	600 mg/m ³ 100 ppm SKIN

A "skin" notation following the 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

Eyes/Face Protection: Use safety glasses.

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. Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly.

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials

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include: Butyl rubber, Polyethylene/ethyl vinyl alcohol laminate ("PE/EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"), Neoprene, Nitrile/butadiene rubber ("nitrile" or "NBR"), Polyvinyl chloride ("PVC" or "vinyl"), Viton.

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: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, 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: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

9. Physical and Chemical Properties

Physical State	Liquid
Color	Colorless
Odor	Mild
Flash Point - Closed Cup	76 °C (167 °F) <i>Setaflash Closed Cup ASTM D3278</i>
Flammable Limits in Air	Lower: 1.1 % (V) <i>Literature</i> Upper: 14 % (V) <i>Literature</i>
Autoignition Temperature	270 °C (518 °F) <i>Literature</i>
Vapor Pressure	0.41 mmHg @ 25 °C <i>Literature</i>
Boiling Point (760 mmHg)	190 °C (374 °F) <i>Literature</i>
Vapor Density (air = 1)	5.11 @ 20 °C <i>Literature</i>
Specific Gravity (H ₂ O = 1)	0.951 25 °C/25 °C <i>Literature</i>
Freezing Point	-82.8 °C (-117.0 °F) <i>Literature</i>
Melting Point	Not available
Solubility in Water (by weight)	100 % <i>Literature</i> miscible in all proportions
pH	Not applicable
Dynamic Viscosity	3.7 mPa.s @ 25 °C <i>Literature</i>

10. Stability and Reactivity

Stability/Instability

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

Will not occur.

Thermal Decomposition

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.

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11. Toxicological Information**Acute Toxicity****Ingestion**

|| LD50, Rat: 5,135 mg/kg

Skin Absorption

|| LD50, Rabbit: > 20 ml/kg

Sensitization**Skin**

|| Did not cause allergic skin reactions when tested in humans

Repeated Dose Toxicity

|| In animals, effects have been reported on the following organs: Liver, Kidney. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed.

Developmental Toxicity

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

Genetic Toxicology

|| In vitro genetic toxicity studies were negative.

12. Ecological Information**CHEMICAL FATE**Data for Component: Dipropylene glycol monomethyl ether**Movement & Partitioning**

|| Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50). 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.

|| Henry's Law Constant (H): 1.8E-7 atm*m3/mole; 25 °C Estimated

|| Partition coefficient, n-octanol/water (log Pow): -0.35 Estimated

|| Partition coefficient, soil organic carbon/water (Koc): 0.25 Estimated

Persistence and Degradability

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

Indirect Photodegradation with OH Radicals

Rate Constant	Atmospheric Half-life	Method
5.00E-05 cm3/s	3.4 - 10.4 h	Estimated

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
75 %	28 d	OECD 301F Test
93 %	13 d	OECD 302B Test

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

ECOTOXICITYData for Component: Dipropylene glycol monomethyl ether

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

Fish Acute & Prolonged Toxicity

8082113, Wednesday, January 23, 2007

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- || LC50, fathead minnow (*Pimephales promelas*), static, 96 h: > 10,000 mg/l
Aquatic Invertebrate Acute Toxicity
- || LC50, water flea *Daphnia magna*, 48 h: 1,818 mg/l
Aquatic Plant Toxicity
- || EC50, green alga *Selenastrum capricornutum*, biomass growth inhibition, 96 h: > 958 mg/l
Aquatic Invertebrates Chronic Toxicity Value:

ChV Value mg/l	Species	Test Type	Endpoint	Exposure Time
> 0.5 mg/l	water flea <i>Daphnia magna</i>	flow-through	number of offspring	22 d

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. DOW HAS 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. As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Group at 1-800-258-2438 or 1-959-832-1556 (U.S.), or 1-800-331-8451 (Canada) for further details.

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: NA1693 Packing Group: PG III

|| IMDG
NOT REGULATED

|| 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.

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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	34590-04-8	> 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)

All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.

16. Other Information

Product Literature

Additional information on this product may be obtained by calling your Dow Chemical Company sales or customer service contact.

Recommended Uses and Restrictions

Industrial solvent for cleaner and coating formulations.

Revision

Identification Number: 50008 / 1001 / Issue Date 12/01/2006 / Version: 3.0

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

N/A	Not available
W/W	Weight/Weight
OEL	Occupational Exposure Limit
STEL	Short Term Exposure Limit
TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists, Inc.

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DOW IHG	Dow Industrial Hygiene Guidelines
WEEL	Workplace Environmental Exposure Level
HAZ DES	Hazard Designation
Action Level	A value set by OSHA that is lower than the PEL which will trigger the need for activities such as exposure monitoring and medical surveillance if exceeded.

The Dow Chemical Company 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.