



Safety Data Sheet

The Dow Chemical Company

Product Name: DOWANOL* DPM GLYCOL ETHER

Revision Date: 2007/03/26

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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. Identification of the substance/preparation and of the company/undertaking

Product Name

DOWANOL* DPM GLYCOL ETHER

Use of the substance/preparation

Industrial solvent for cleaner and coating formulations.

COMPANY IDENTIFICATION

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

Customer Information Number:

800-258-2436

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact:

989-636-4400

Local Emergency Contact:

00 44 155 37 61 251

2. Composition/information on ingredients

Component	Amount	Classification:	CAS #	EC #
Dipropylene glycol monomethyl ether	> 99.0 %	Not classified.	34590-94-8	252-104-2

3. Hazards Identification

This product is not classified as dangerous according to EC criteria.

4. First-aid measures

* Indicates a Trademark

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.

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.

Storage Period:, Shelf life: Use within, Bulk 6 Months

Steel drums. 24 Months

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Dipropylene glycol monomethyl ether	Dow IHG	TWA Aerosol	10 mg/m3
	Ireland OELV	TWA	308 mg/m3 50 ppm SKIN
	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm SKIN
	EU IOELV	TWA	308 mg/m3 50 ppm SKIN
	UK WEL	TWA	308 mg/m3 50 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

Eye/Face Protection: Use safety glasses. Safety glasses should be consistent with EN 166 or equivalent.

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 chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials 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. When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. **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. Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

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	75 °C <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 <i>Literature</i>
Vapor Pressure	0.055 kPa @ 25 °C <i>Literature</i>
Boiling Point (760 mmHg)	190 °C <i>Literature</i>
Vapor Density (air = 1)	5.11 @ 20 °C <i>Literature</i>
Specific Gravity (H₂O = 1)	0.951 25 °C/25 °C <i>Literature</i>
Freezing Point	-82.8 °C <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.

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

LD50, Rat 5,135 mg/kg

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.

LD50, Rabbit > 20 ml/kg

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.

LC50, 7 h, Aerosol, Rat > 500 ppm

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): 1.6E-7 atm*m3/mole; 25 °C Estimated

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

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

Theoretical Oxygen Demand: 2.06 mg/mg

ECOTOXICITY

Data for Component: Dipropylene glycol monomethyl ether

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50 greater than 100 mg/L in most sensitive species).

Fish Acute & Prolonged Toxicity

LC50, fathead minnow (*Pimephales promelas*), static, 96 h: > 10,000 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Daphnia magna*, 48 h: 1,919 mg/l

Aquatic Plant Toxicity

EC50, green alga *Selenastrum capricornutum*, biomass growth inhibition, 96 h: > 969 mg/l

Aquatic Invertebrates Chronic Toxicity Value:

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

13. Disposal Considerations

Any disposal practice must be in compliance with all local and national laws and regulations. Do not dump into any sewers, on the ground, or into any body of water.

14. Transport Information

ROAD & RAIL

NOT REGULATED

OCEAN

NOT REGULATED

AIR

NOT REGULATED

INLAND WATERWAYS

Proper Shipping Name: SUBSTANCES with a flashpoint above 61°C but not more than 100°C, N.O.S.

Technical Name: DIPROPYLENE GLYCOL METHYL ETHER ISOMERS

Hazard Class: 9 **ID Number:** ID9003

15. Regulatory Information

European Inventory of Existing Commercial Chemical Substances (EINECS)

This product is on the EINECS inventory.

EC Classification and User Label Information

This product is not classified as dangerous according to EC criteria.

16. Other Information

Product Literature

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

Revision

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

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.