Material Safety Data Sheet

DOWANOL DPM / RXSOL D-SOLV DPM (RXSOL-19-1162-050)

1. Product and Company Identifaction

Part Number	RXSOL-16-1162-210
Product Name	DOWANOL DPM / RXSOL D-SOLV DPM

Company Details:

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2. Composition / informationon ingredients

Chemical Name	Concentration	CAS Number	EC Number	R Phrases*	Symbols
Dipropylene glycol monomethyl ether	100%	34590-94-8			

*See Section 16

3. Hazards Identification

Odour	Solvent odour.
Appearance	Clear Liquid, soluble in water and Solvents
Contact with eyes	May cause slight temporary eye irritation. Corneal injury is unlikely.
Contact with skin	Prolonged exposure not likely to cause significant skin irritation.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.
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.

4. First Aid Measures

Contact with skin	Remove contaminated clothing immediately and drench affected skin with plenty of water. Then wash with soap and water.Seek medical attention if irritation persists

Contact with eyes	If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes Irrigate eyes thoroughly whilst lifting eyelids When in doubt or symptoms persist, seek medical attention
Ingestion	Do not induce vomiting Never give anything by mouth to an unconscious person Give water or milk to drink
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.
General	When in doubt or symptoms persist, seek medical attention.Use good personal hygiene practices

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.

6. Accidental Release Measures

Personal Precautions	Wear protective clothing as per section 8.
Environmental Precautions	Do not flush spilt material into any public water system.
Immediate Actions	Use appropriate containment to avoid environmental contamination (S57).
Clean Up Actions	Absorb spillage in inert material and shovel up Ventilate the area and wash spill site after material pick-up is complete.

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 notstore in: Aluminum. Copper. Galvanized iron. Galvanized steel. information. **Storage Period:, Shelf life: Use within, Bulk** 6 Months **Steel drums.** 24 Months

8. Exposure controls and personal protection

Exposure Limits	No exposure limits have been set for this substance.
Exposure controls	No special ventilation is required unless the product is used in a spray form.
Occupational exposure controls	Wear goggles giving complete eye protection Wear plastic or rubber gloves Wear apron No respiratory protection is required unless subject to contact with substance mist


Goggles


Gloves


Suit


Respirator

9. Physical and chemical properties

Odour	Mild
Appearance	Liquid, Colourless
Flash Point - Closed Cup	75 °C (167 °F) *Setaflash Closed Cup ASTMD3278*
Boiling point	190 °C (374 °F)
Vapour pressure	0.41 mmHg @ 25 °C
Vapour density	5.11 @ 20 °C
Freezing point	-82.8 °C (-117.0 °F)
Completely soluble in water	
Specific gravity (water=1)	0.951 25 °C/25 °C
Flammable Limit	**Lower**: 1.1 %(V) **Upper**: 14 %(V)

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

Ingestion

LD50, Rat 5,135 mg/kg

Skin Absorption

LD50, Rabbit > 20 ml/kg

Inhalation

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: 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

Bio - concentration 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

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

ECOTOXICITY

Data 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

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

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

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

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)

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

The information provided about the product on this Safety Data Sheet has been compiled from knowledge of the individual constituents The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the product's properties The data given here only applies when product used for proper application(s). The product is not sold as suitable for other applications - usage in such may cause risks not mentioned in this sheet. Do not use for other application(s) without seeking advice from manufacturer.

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