



Material Safety Data Sheet

Dow Chemical Canada ULC

Product Name: OPTIM* Glycerine 99.7%, USP/EP

Issue Date: 2006.12.12

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Dow Chemical Canada ULC 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

OPTIM* Glycerine 99.7%, USP/EP

COMPANY IDENTIFICATION

Dow Chemical Canada ULC
A Subsidiary of The Dow Chemical Company
4445 Marie-Victorin Blvd
Varenes, QC J3X 1T3
Canada

For MSDS updates and Product Information: 800-331-6451

Prepared By: Prepared for use in Canada by EH&S, Product Regulatory
Management Department.
450-652-1029

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Customer Information Number: 800-331-6451

EMERGENCY TELEPHONE NUMBER

24-Hour Emergency Contact: (989) 636-4400

Local Emergency Contact: 989-636-4400

2. Hazards Identification

Emergency Overview

Color: Colorless

Physical State: Liquid

Odor: Odorless

Hazards of product:

No significant immediate hazards for emergency response are known.

* Indicates a Trademark

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 is unlikely to result in absorption of harmful amounts. Prolonged/repeated exposure to damaged skin (as in burn patients) may result in absorption of toxic amounts.

Inhalation: At room temperature, exposure to vapor is minimal due to low volatility. Vapor from heated material or mist may cause respiratory irritation.

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. In humans, effects have been reported on the following organs: Central nervous system. Observations in humans include: Altered blood sugar levels.

Effects of Repeated Exposure: Excessive exposure to glycerine may cause increased fat levels in blood. In animals, effects have been reported on the following organs: Gastrointestinal tract.

Reproductive Effects: Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses of glycerine given in the diet. Similar effects have been seen in animals fed synthetic diets.

3. Composition/information on ingredients

Component	CAS #	Amount W/W
Glycerol	56-81-5	>= 99.7 %

Amounts are presented as percentages by weight.

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 effects occur, consult a physician.

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

Notes to Physician: 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. Do not use direct water stream. May spread fire. 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. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire. 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). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Unusual Fire and Explosion Hazards: 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.

See Section 9 for related Physical Properties

6. Accidental Release Measures

Steps to be Taken if Material is Released or Spilled: Recover spilled material if possible. Contain spilled material if possible. Absorb with materials such as: Sand. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

Personal Precautions: Keep unnecessary and unprotected personnel from entering the 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.

7. Handling and Storage

Handling

General Handling: No special precautions required.

Storage

Store in a dry place. Avoid moisture.

Shelf life: Use within
24 Months

Storage temperature:
17 - 55 °C

8. Exposure Controls / Personal Protection

Exposure Limits

Component	List	Type	Value
Glycerol	OEL (QUE)	TWA Mist.	10 mg/m3
	CAD AB OEL	TWA Mist.	10 mg/m3
	CAD BC OEL	TWA Mist.	10 mg/m3
	CAD BC OEL	TWA	3 mg/m3
		Respirable mist	
	CAD ON OEL	TWA Mist.	10 mg/m3
	ACGIH	TWA Mist.	10 mg/m3

Consult local authorities for recommended exposure limits.

Personal Protection

Eye/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.

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. Polyethylene. Neoprene. Natural rubber ("latex"). Polyvinyl chloride ("PVC" or "vinyl"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl alcohol ("PVA"). Ethyl vinyl alcohol laminate ("EVAL"). 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. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

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	Odorless
Flash Point - Closed Cup	199 °C <i>Pensky-Martens Closed Cup ASTM D 93</i>
Flammable Limits In Air	Lower: 2.6 %(V) <i>Literature Vapor</i> Upper: 11.3 %(V) <i>Literature Vapor</i>
Autoignition Temperature	1 atm 370 °C <i>Literature</i>
Vapor Pressure	1 mmHg @ 20 °C <i>Literature</i>
Boiling Point (760 mmHg)	290 °C <i>Literature</i>
Vapor Density (air = 1)	3.1 @ 20 °C <i>Literature</i>
Specific Gravity (H ₂ O = 1)	1.2607 <i>Literature</i>
Liquid Density	10.49 g/cm ³ @ 25 °C <i>Test method in development</i>
Freezing Point	18 °C <i>Literature</i>
Melting Point	Not applicable
Solubility in Water (by weight)	100 % @ 20 °C <i>Literature</i>
pH	6.5 - 8.5 <i>pH Electrode (50% aq. sol.)</i>
Molecular Weight	92.1 g/mol <i>Literature</i>
Octanol/Water Partition Coefficient	-1.76 <i>Measured</i>
Dynamic Viscosity	945 mPs @ 25 °C <i>Literature</i>
Kinematic Viscosity	No test data available

10. Stability and Reactivity

Stability/Instability

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

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose. Avoid moisture.

Incompatible Materials: Avoid contact with: 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: Acrolein.

11. Toxicological Information

Acute Toxicity

Ingestion

LD50, Rat 17,000 - 27,200 mg/kg

Skin Absorption

LD50, Rabbit > 10,000 mg/kg

Inhalation

LC50, 6 h, Aerosol, Rat > 4 mg/l

Repeated Dose Toxicity

Excessive exposure to glycerine may cause increased fat levels in blood. In animals, effects have been reported on the following organs: Gastrointestinal tract.

Chronic Toxicity and Carcinogenicity

For the major component(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

Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses of glycerine given in the diet. Similar effects have been seen in animals fed synthetic diets.

Genetic Toxicology

In vitro genetic toxicity studies were negative.

12. Ecological Information

CHEMICAL FATE

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): 1.73E-8 atm*m3/mole; 25 °C Measured

Partition coefficient, n-octanol/water (log Pow): -1.76 Measured

Partition coefficient, soil organic carbon/water (Koc): 1 Estimated

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
63 %	14 d	OECD 301C Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
68 %	74 %	74 %	

Chemical Oxygen Demand: 1.15 mg/mg

ECOTOXICITY

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: 44,000 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea Daphnia magna, 24 h: > 10,000 mg/l

Toxicity to Micro-organisms

EC50, OECD 209 Test; activated sludge, respiration inhibition, 3 h: > 1,000 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: Recycler. Reclaimer. 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 1-800-258-2436 or 1-989-832-1556 (U.S.), or 1-800-331-6451 (Canada) for further details. 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**TDG Small container**

NOT REGULATED

TDG Large container

NOT REGULATED

IMDG

NOT REGULATED

ICAO/IATA

NOT REGULATED

15. Regulatory Information**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

European Inventory of Existing Commercial Chemical Substances (EINECS)

The components of this product are on the EINECS inventory or are exempt from inventory requirements.

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.

Hazardous Products Act Information: CPR Compliance

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

Hazardous Products Act Information: WHMIS Classification

This product is not a "Controlled Product" under WHMIS.

16. Other Information**Hazard Rating System**

NFPA	Health	Fire	Reactivity
	1	1	1

Recommended Uses and Restrictions

Used in applications such as: Cosmetics ingredient. Food additive. Emulsifying agent. Humectant. Personal care applications. Pharmaceuticals. Chemical intermediate.

Revision

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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.
DOW IHG	Dow Industrial Hygiene Guideline
WEEL	Workplace Environmental Exposure Level
HAZ DES	Hazard Designation
VOL/VOL	Volume/Volume

Dow Chemical Canada ULC 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.