

400-411

# Material Safety Data Sheet



## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

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24-Hour Emergency Phone Number: 989-636-4400

Product: GLYCERINE - INDUSTRIAL GRADE

Product Code: 50759

Effective Date: 01/28/99

Date Printed: 12/17/01

MSD: 000165

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Glycerine, minimum

CAS# 000056-81-5 99.5%

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

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 \* Water white liquid. Odorless. No significant immediate hazards for \*  
 \* emergency response are known. \*  
 \*  
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### POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

EYE: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely.

SKIN: Prolonged or repeated exposure not likely to cause significant skin irritation. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Prolonged/repeated exposure to damaged skin as in burn patients) may result in absorption of toxic amounts.

INGESTION: Single dose oral toxicity is considered to be extremely low. Small amounts swallowed incidental to normal handling operations are not likely to cause injury; swallowing amounts larger than that may cause injury. Signs and symptoms of excessive exposure may be central nervous system effects and

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increased blood sugar levels.

INHALATION: At room temperature, vapors are minimal due to physical properties. If material is heated or mist is produced, concentrations may be attained that are sufficient to cause respiratory irritation.

SYSTEMIC & OTHER EFFECTS: Repeated excessive exposures may cause increased fat levels in blood. Observations in animals include kidney, liver, and gastrointestinal effects with very large oral doses.

CANCER INFORMATION: Did not cause cancer in long-term animal studies.

TERATOLOGY: Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effects on the fetus.

REPRODUCTIVE EFFECTS: Reproductive effects seen in female animals are believed to be due to altered nutritional states resulting from extremely high doses in their diets. Similar effects have been seen in animals fed synthetic diets.

4. FIRST AID

EYES: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

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

INHALATION: Remove to fresh air if effects occur. Consult a physician.

NOTE TO PHYSICIAN: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: 390F, 199C

METHOD USED: PMCC

AUTOIGNITION TEMPERATURE: 698F, 370C.

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FLAMMABILITY LIMITS

LFL: Not determined.

UFL: Not determined..

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to: Aldehydes, carbon monoxide, carbon dioxide.

OTHER FLAMMABILITY INFORMATION: Violent steam generation or eruption may occur upon application of direct water stream.

EXTINGUISHING MEDIA: Water fog or fine spray, carbon dioxide, dry chemical, foam. Alcohol resistant foams (ATC type) or protein foams may function, but much less effectively. Do not use direct water stream. Will spread fire.

MEDIA TO BE AVOIDED: Do not use direct water stream.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage. Burning liquids may be extinguished by dilution with water. Do not use direct water stream. May spread fire.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves. If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Keep unnecessary people away; isolate hazard area and deny unnecessary entry.

PROTECT THE ENVIRONMENT: Keep out of sewers, storm drains, surface water and soil.

CLEANUP: Small spills: Cover with absorbent material, soak up and sweep into a drum. Large spills: Dike around spill and pump into suitable containers.

7. HANDLING AND STORAGE

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HANDLING: Practice reasonable care and caution.

STORAGE: Glycerine freezes at 64F. Glycerine should be kept above 64F but below 130F.

#### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

##### PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION: Use safety glasses.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

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.

EXPOSURE GUIDELINE: Glycerin: ACGIH TLV is 10 mg/m<sup>3</sup>. OSHA PEL is 10 mg/m<sup>3</sup> total, 5 mg/m<sup>3</sup> respirable. PELS are in accord with those recommended by OSHA, as in the 1989 revision of PELS.

#### 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 554F, 290C  
VAP PRESS: < 1.0 mmHg @ 20C  
VAP DENSITY: 3.1  
SOL. IN WATER: Miscible  
SP. GRAVITY: 1.2607 @ 25/25 (min.)  
APPEARANCE: Water white liquid.  
ODOR: Odorless.

#### 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Avoid strong oxidizing agent (such as sodium hypochlorite, hypochlorous acid).

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INCOMPATIBILITY WITH OTHER MATERIALS: Oxidizing material.

HAZARDOUS DECOMPOSITION PRODUCTS: Acrolein.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1)

SKIN: The LD50 for skin absorption in rabbits is >10,000 mg/kg.

ORAL: The oral LD50 for rats is 17,000 to 27,200 mg/kg.

INHALATION: The LC50 for 6 hours in rats was > 4 mg/liter.

MUTAGENICITY: In vitro mutagenicity studies were negative.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Log octanol/water coefficient (log Pow is -1.76).

DEGRADATION & PERSISTENCE: Biodegradation under aerobic laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Biodegradation is expected to be achievable in a secondary wastewater treatment plant. Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is greater than 1000 mg/L. 5-Day biochemical oxygen demand (BOD5) is 0.54 p/p. 10-Day biochemical oxygen demand (BOD10) is 0.98 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.0 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.22 p/p.

ECOTOXICITY: Material is practically non-toxic to fish on an acute basis (LC50 greater than 100 mg/L). Acute LD50 for fathead minnow (*Pimephales promelas*) is 44000 mg/L. Acute LD50 for goldfish (*Carassius auratus*) is greater than 5000 mg/L.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

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DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods 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.

THE DOW CHEMICAL COMPANY 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 2 (Composition/Information On Ingredients).

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 Center at 800-258-2436 or 517-832-1556 for further details.

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION (DOT): For DOT regulatory information, if required, consult transportation regulations, product shipping papers, or your Dow representative.

15. REGULATORY INFORMATION (Not meant to be all-inclusive--selected regulations represented)

NOTICE: The information herein is presented 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 from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U.S. REGULATIONS

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REGULATORY INFORMATION (CONTINUED)

SARA 313 INFORMATION: To the best of our knowledge, this product contains no chemical subject to SARA Title III Section 313 supplier notification requirements.

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SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

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TOXIC SUBSTANCES CONTROL ACT (TSCA):

All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

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16. OTHER INFORMATION

MSDS STATUS: Revised Section 13, Disposal

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The Information Herein Is Given In Good Faith, But No Warranty, Express Or Implied, Is Made. Consult The Dow Chemical Company For Further Information.