Univar USA Inc.
6100 Carillon Point
Kirkland, WA 98033
(425) 889-3400

For Emergency Assistance involving chemicals call - CHEMTREC (800) 424-9300

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The Version Date for this MSDS is : 03/26/2003

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PRODUCT IDENTIFICATION
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PRODUCT NAME: GLYCERINE

MSDS#: DZ08439

DATE ISSUED: 07/10/00

SUPERSEDES: NEW

ISSUED BY: 008360

1. CHEMICAL PRODUCT IDENTIFICATION

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

Product: GLYCERINE

2. COMPOSITION/INFORMATION ON INGREDIENTS

Glycerine, minimum CAS# 000056-81-5 99.7%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
Water white liquid. Odorless. No significant hazards for emergency response are known.

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 on harmful amounts. May be absorbed in potentially harmful amounts when applied in large quantities to severe burns (second or third degree)over large areas of the body as part of a

cream or other topical application. Absorption under such circumstances can elevate serum osmolality and may result in osomotic shock.

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 increased blood sugar levels.

INHALATION: At room temperature, vapors are minimal due to physical properties. If heated or sprayed as an aerosol, airborne material may cause upper respiratory irritation.

SYSTEMIC (OTHER TARGET ORGAN) 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 effect on the fetus.

REPRODUCTIVE EFFECTS: Reproductive effects seen in female animals are believed to be due to altered nutritional status 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.

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

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: 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/m3.OSHA PEL is 10 mg/m3 total, 5 mg/m3 respirable. PELs are in accord those recommended by OSHA, as in the 1989 revision of PELs.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Water white liquid.
ODOR: Odorless
VAPOR PRESSURE:< 1.0 MMHG @ 20C
VAPOR DENSITY:3.1
BOILING POINT:554F, 290C
SOLUBILITY IN WATER: Miscible
SPECIFIC GRAVITY:1.2607 @ 25/25 (MIN.)

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

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

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.

INGESTION: 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: Based largely or completely on information for similar material(s), i.e. glycerine. 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: Based largely or completely on information for similar material(s), i.e. glycerine. 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: Based largely or completely on information for similar material(s), i.e. glycerine. Material is practically non-toxic to fish on an acute basis (LC50 greater than 100 100 mg/L).Acute LD50 for fathead minnow (Pimephales promelas) is 44000 mg/L. Acute LD50 for goldfish (Carassiius auratus) is greater than 5000 mg/L.

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

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.

FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: recycler, reclaimer, incinerator or other thermal destruction device.

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION (DOT):For DOT regulatory information, if required, consult transportation regulations, or product shipping papers.
Not regulated for transport by DOT.

CANADIAN TDG INFORMATION:
For TDG regulatory information, if required, consult transportation regulations or product shipping papers.

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

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

CANADIAN REGULATIONS
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WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

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

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16. OTHER INFORMATION.

For Additional Information:
Contact: MSDS Coordinator - Univar USA
During business hours, Pacific Time - (425) 889-3400

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END OF MSDS