



C1517  
(9604)

# Material Safety Data Sheet

The Dow Chemical Company  
Midland, Michigan 48674

## 1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Page: 1

24-Hour Emergency Phone Number: 517-636-4400

Product: PROPYLENE GLYCOL USP

Product Code: 70531

Effective Date: 12/26/95 Date Printed: 03/20/96 MSD: 000248

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

Propylene glycol

CAS# 000057-55-6 99%

## 3. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW

Colorless liquid. Odorless. Toxic fumes are released in fire situations.

POTENTIAL HEALTH EFFECTS (See Section 1) for toxicological data.)

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

**SKIN:** Prolonged contact is essentially nonirritating to skin. A single prolonged exposure is not likely to result in the material being absorbed through skin in harmful amounts. Repeated exposures may cause flaking and softening of skin. 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 osmotic shock.

**INGESTION:** Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

(Continued on page 2, over)

(R) Indicates a Trademark of The Dow Chemical Company

Distributed by

**HUBBARD-HALL INC.**



Waterbury, CT 06722 203/756-2171  
Riverside, SC 29349 803/779-0051  
Lynchburg, VA 24503 703/938-6100  
Wilmington, MA 01907 617/787-0700  
Wilmington, MA 01907 304/988-3077



Printed on Recycled and Recyclable Paper

## MATERIAL SAFETY DATA SHEET PAGE: 2

Product: PROPYLENE GLYCOL USP  
Product Code: 70531

Effective Date: 12/26/95 Date Printed: 03/20/96 MSD: 000248

---

INHALATION: At room temperature, vapors are minimal due to physical properties. Mists may cause irritation of upper respiratory tract.

SYSTEMIC (OTHER TARGET ORGAN) EFFECTS: Repeated excessive ingestion may cause central nervous system effects.

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

TERATOLOGY (BIRTH DEFECTS): Birth defects are unlikely. Exposures having no adverse effects on the mother should have no effect on the fetus.

REPRODUCTIVE EFFECTS: In animal studies, has been shown not to interfere with reproduction.

#### 4. FIRST AID

EYE: Flush eyes with plenty of water.

SKIN: Wash off in flowing water or shower.

INGESTION: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

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: 218F, 103C

METHOD USED: PMCC

AUTOIGNITION TEMPERATURE: Not determined

##### FLAMMABILITY LIMITS

LFL: 2.6%

UFL: 12.5%

HAZARDOUS COMBUSTION PRODUCTS: During a fire, smoke may contain the original material in addition to unidentified toxic and/or

(Continued on page 3)

(R) Indicates a Trademark of The Dow Chemical Company

**MATERIAL SAFETY DATA SHEET**

PAGE: 3

Product: PROPYLENE GLYCOL USP  
Product Code: 70531

Effective Date: 12/26/95

Date Printed: 03/20/96

MSD: 000248

irritating compounds. Hazardous combustion products may include and are not limited to: aldehydes, carbon monoxide.

**OTHER FLAMMABILITY INFORMATION:** Violent steam generation or eruption may occur upon application of direct water stream to hot liquids. Spills of these organic liquids on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

**EXTINGUISHING MEDIA:** Water fog or fine spray. Carbon dioxide. Dry chemical. foam. Alcohol resistant foams (ATC type) are preferred if available. General purpose synthetic foams (including AFFF) 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:** Isolate area.

**PROTECT THE ENVIRONMENT:** Contain liquid to prevent contamination of soil, surface water or ground water.

**CLEANUP:** For small spills, clean up with absorbent material. Collect material in suitable and properly labeled open containers. For large spills, dike and pump into suitable and properly labeled containers.

**7. HANDLING AND STORAGE**

**HANDLING:** Product handled hot may require additional ventilation

(Continued on page 4, over)

(R) indicates a Trademark of The Dow Chemical Company

## MATERIAL SAFETY DATA SHEET

PAGE: 4

Product: PROPYLENE GLYCOL USP  
Product Codes: 70531

Effective Date: 12/26/95

Date Printed: 03/20/96

MSD: 000248

or local exhaust.

STORAGE: Keep containers tightly closed when not in use. Store in stainless steel, aluminum, Plasite 3066 lined containers, or 316 stainless steel.

## B. 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. Safety glasses should be sufficient for most operations; however, for misty operations wear chemical goggles.

SKIN PROTECTION: Use gloves impervious to this material.

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. In misty atmospheres, use an approved mist respirator.

EXPOSURE GUIDELINE(S): Propylene glycol: AIHA WEEL is 50 ppm total. 10 mg/m<sup>3</sup> aerosol only.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Colorless liquid  
ODOR: Odorless  
VAPOR PRESSURE: 0.08 mmHg @ 20C, 68F  
VAPOR DENSITY: 2.62  
BOILING POINT: 370F, 188C  
SOLUBILITY IN WATER: Complete  
SPECIFIC GRAVITY: 1.038 20/20C, 68F

## 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Product can decompose at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: Avoid contact with oxidizing agents.

(Continued on page 5)

(R) indicates a Trademark of The Dow Chemical Company

## MATERIAL SAFETY DATA SHEET

PAGE: 5

Product: PROPYLENE GLYCOL USP  
Product Code: 70531

Effective Date: 12/26/95

Date Printed: 03/20/96

MSD: 000248

dizing materials.

HAZARDOUS DECOMPOSITION PRODUCTS: When available oxygen is limited, as in a fire or when heated to very high temperatures by hot wire or plate, carbon monoxide and other hazardous compounds such as aldehydes might be generated.

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 20,000-34,000 mg/kg.

MUTAGENICITY: In vitro mutagenicity studies were negative.  
Animal 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. propylene glycol. Bioconcentration potential is low (BCF less than 100 or Log Pow less than 3). Log octanol/water partition coefficient (log Pow) is -0.92. Henry's Law Constant (H) is 1.2E-8 atm.m<sup>3</sup>/mole.

DEGRADATION & PERSISTENCE: Based largely or completely on information for similar material(s), i.e. propylene glycol. Biodegradation under aerobic static laboratory conditions is high (BOD20 or BOD28/ThOD greater than 40%). Biodegradation is expected to be achievable in a secondary wastewater treatment plant. 5-Day biochemical oxygen demand (BOD5) is 1.16 p/p. 20-Day biochemical oxygen demand (BOD20) is 1.45 p/p. Theoretical oxygen demand (ThOD) is calculated to be 1.68 p/p. Inhibitory concentration (IC50) in OECD Activated Sludge Respiration Inhibition Test (OECD Test No. 209) is greater than 1 gm/L. Degradation is expected in the atmospheric environment within minutes to hours.

(Continued on page 6, over)

(R) Indicates a Trademark of The Dow Chemical Company

## MATERIAL SAFETY DATA SHEET

PAGE: 6

Product: PROPYLENE GLYCOL USP  
Product Code: 70531

Effective Date: 12/26/95 Date Printed: 03/20/96 MSD: 000248

ECOTOXICITY: Based largely or completely on information for similar material(s), i.e. propylene glycol. Material is practically non-toxic to aquatic organisms on an acute basis (LC50 greater than 100 mg/L in most sensitive species).

Acute LC50 for fathead minnow (*Pimephales promelas*) is 4600-54900 mg/L.

Acute LC50 for guppy (*Poecilia reticulata*) is greater than 10000 mg/L.

Acute LC50 for water flea *Daphnia magna* is 4850-34400 mg/L.

Acute LC50 for rainbow trout (*Oncorhynchus mykiss*) is 44 mL/L (about 44000 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. 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, waste water treatment system.

As a service to its customers, Dow can provide lists of companies which recycle, reprocess or manage chemicals or plastics, and companies that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 517-832-1556 for further details.

**14. TRANSPORT INFORMATION**

DEPARTMENT OF TRANSPORTATION: This product is not regulated by D.O.T. when shipped domestically by land.

CANADIAN TDG INFORMATION: For TDG 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)**

(Continued on page 7)

(R) Indicates a Trademark of The Dow Chemical Company

MATERIAL SAFETY DATA SHEET

PAGE: 7

Product: PROPYLENE GLYCOL USP  
Product Code: 70531

Effective Date: 12/26/95

Date Printed: 03/20/96

MSD: 000248

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

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

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

TOXIC SUBSTANCES CONTROL ACT (TSCA):

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

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of

New Jersey  
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD:

(Continued on page 8, over)

(R) Indicates a Trademark of The Dow Chemical Company