

PRODUCT NAME: polycool PG -20  
PART NUMBER: 060320  
REVISION DATE: 01/17/2010

SUPERSEDES: 03/02/2006

### 1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

Chemical Name: Propylene glycol  
CAS no. 57-55-6  
Product Description: colorless, odorless liquid.

Supplier:  
Univar USA Inc.  
17425 NE Union Hill Rd  
Redmond, WA 98052  
Telephone: (425)889-3400

Bottler:  
Accumetric Inc  
411 E Dixie  
Elizabethtown, KY 42701

Distributor:  
PolyScience  
6600 W Touhy Ave  
Niles, IL 60714  
Telephone: (847)647-0611

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS, CALL - CHEMTREC (800) 424-9300

### 2. HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Color: Colorless  
Physical State: Liquid  
Odor: Odorless

Hazards of Product: No significant immediate hazards for emergency response are known.

#### OSHA Hazard Communication Standard

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### POTENTIAL HEALTH EFFECTS:

Eye Contact: May cause slight eye irritation. Corneal injury is unlikely. Vapor or mist may cause eye irritation.

Skin Contact: Brief contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin.

Skin Absorption: Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Inhalation: At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat).

Ingestion: Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

Effects of Repeated Exposure: In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

NFPA Ratings (0-4):  
Health: 1  
Fire: 1  
Reactivity: 0

### 3. COMPOSITION/INGREDIENTS INFORMATION

COMPONENT	CAS NO.	WEIGHT %
Propylene glycol	57-55-6	>99.8%

#### 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:	No emergency medical treatment necessary.
NOTE 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

SUITABLE 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 (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.
FIRE FIGHTING PROCEDURE:	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). If protective equipment is not available or not used, fight fire from a protected location or safe distance.
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.
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.

#### 6. ACCIDENTAL RELEASE MEASURES

Steps to be Taken if Material is Released or Spilled: Contain spilled material if possible. Collect in suitable and properly labeled container.

*Small spills:* Absorb with absorbent material. Collect in suitable and properly labeled open containers. Wash the spill site with large quantities of water.

*Large spills:* Dike area to contain spill. Pump into suitable and properly labeled containers. See Section 13, Disposal Consideration, for additional information.

*Personal Precautions:* Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls/Personal Protection. Keep unnecessary and unprotected personnel from entering the area. Spilled material may cause a slipping hazard.

*Environmental Precautions:* Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

#### 7. STORAGE AND HANDLING

HANDLING	
GENERAL HANDLING:	Product handled hot may require additional ventilation or local exhaust. See Section 8, Exposure Controls/Personal Protection.
OTHER PRECAUTIONS	Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures, possibly resulting in spontaneous combustion.
STORAGE	Do not store near food, foodstuffs, drugs or potable water supplies. Additional storage and handling information on this product may be obtained by calling Univar. Ask for a product brochure.
SHELF LIFE	Use with 24.0 Months
MAXIMUM STORAGE TEMPERATURES	40 deg C

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Limits

Component	List	Type	Value
Propylene Glycol	WEEL	TWA	100mg/m <sup>3</sup> Aerosol

### Personal Protection

EYE/FACE PROTECTION:	Safety glasses should be sufficient for most operations; however, for misty operations, wear chemical goggles.
SKIN PROTECTION:	No precautions other than clean body-covering clothing should be needed.
HAND PROTECTION:	Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.
INGESTION:	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 particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor with acid gas cartridge and particulate pre-filter.

### ENGINEERING CONTROLS

VENTILATION:	Provide general and/or local ventilation to control airborne levels below the exposure guidelines.
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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Colorless
Odor:	Odorless
Flash Point - Closed Cup:	103°C (217°F) Literature (PMCC)
Flammable Limits in Air:	Lower: 2.6% (V) Estimated Upper: 12.5% (V) Estimated
Autoignition Temperature:	371°C (700°F) Literature
Vapor Pressure:	0.3 mbar @ 25°C Literature
Boiling Point (760mmHg):	187.4°C (369.3°F) Literature
Vapor Density (air = 1):	2.62 Literature
Specific Gravity (H <sub>2</sub> O = 1):	1.04 20°C/20C Literature
Freezing Point:	No test data available.
Melting Point:	No test data available.
Solubility in Water (by weight):	100%
pH	Not applicable.
Evaporation Rate (Butyl Acetate = 1):	0.01 Estimated
Dynamic Viscosity:	48.6 mPs @ 25°C Literature
Pour Point:	<57°C (<-71°F) Literature

## 10. STABILITY AND REACTIVITY

### Stability/Instability

Stable under recommended storage conditions. See Storage and Handling, Section 7

Hygroscopic

Incompatible Materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Conditions to Avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems. Avoid direct sunlight or ultraviolet sources.

### 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.

### Hazardous Polymerization

Will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Ingestion: LD50, Rat: 20,000-34,000mg/kg

Skin Absorption: LD50, Rabbit: >20,000mg/kg

Repeated Dose Toxicity: In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

## TOXICOLOGY INFORMATION continued.

Chronic Toxicity and Carcinogenicity: Did not cause cancer in laboratory animals.

Developmental Toxicity: Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive Toxicity: In animal studies, did not interfere with reproduction.

## 12. ECOLOGICAL INFORMATION

### CHEMICAL FATE

Data for Component: Propylene glycol

#### Movement & Partitioning

Bioconcentration potential is low (BCF <100 or Log Power <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): 1.2E-8 atm\*m<sup>3</sup>/mole; 25 C Measured

Partition coefficient, n-octanol/water (log Pow): -0.92 Measured

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

#### Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen). Indirect Photodegradation with OH Radicals.

Rate Constant	Atmospheric Half-Life	Method
1.28E-11 cm <sup>3</sup> /s	10 h	Estimated

OECD Biodegradation Test	Exposure Time	Method
Biodegradation	28 d	OECD 301 F Test
81%	64 d	OECD 306 Test
95.8 %/0		

Biological Oxygen Demand (BOD):			
BOD 5	BOD 10	BOD 20	BOD 28
69%	70%	86%	

Chemical Oxygen Demand: 1.53mg/mg

Theoretical Oxygen Demand: 1.29mg/mg

### ECOTOXICITY

Data for Component: Propylene glycol

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50 >100mg/L in the most sensitive species tested).

#### Fish Acute & Prolonged Toxicity

LC50, rainbow trout (*Oncorhynchus mykiss*), static, 96 h: 44,000 – 51,600 mg/L

#### Aquatic Invertebrate Acute Toxicity

EC50, water flea *Daphnia magna*, 48 h, immobilization: 4,850-34,000mg/L

LC50, saltwater mysid *Mysidopsis bahia*, static, 96 h: 18,800mg/L

#### Aquatic Plant Toxicity

EC50, green alga *Selenastrum capricornutum*, biomass growth inhibition: 19,000mg/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. Water characterizations and compliance with applicable laws are the responsibility solely of the waste generator. **VENDOR HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION REPRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 3: Composition/Ingredients Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Recycler, Reclaimer, Incinerator or other thermal destruction device.**

#### 14. TRANSPORTATION INFORMATION

DOT Non-Bulk  
NOT REGULATED

DOT Bulk  
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 not 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	No
Delayed (Chronic) Health Hazard	No
Fire Hazard	No
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
Propylene glycol	57-55-6	>99.8%

Pennsylvania (Worker and Community Right-to-Know Act): Pennsylvania Hazardous Substances List and/or Pennsylvania Environmental Hazardous Substance List: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103:

To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.

U.S. EPA Emergency Planning and Community Right-to-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFE 355, Appendix A):

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) WARNING: 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.

U.S. Toxic Substances Control Act

All components of this product are on the TSCA Inventory or are exempt from the 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.

European Inventory of Existing Commercial Chemical Substance (EINECS)

This product is on the EINECS Inventory.

16. OTHER INFORMATION

Recommended Uses and Restrictions

Vendor recommends that you use this product in a manner consistent with the listed use.

Humectant and solvent for:

Foodstuffs, Flavors, Fragrances, Cosmetics, Pharmaceuticals, Personal care applications. Not for use in cat food.

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

FOR ADDITIONAL INFORMATION

CONTACT MSDS COORDINATOR (UNIVAR USA INC) DURING BUSINESS HOURS, PACIFIC TIME (425) 889-3400

NOTICE

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