MATERIAL SAFETY DATA SHEET SDS #527

Propylene Glycol

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Creation Date: 20 April 2005 Revision Date: 20 April 2005

SECTION 1: PRODUCT IDENTIFICATION

PRODUCT NAME:	Propylene Glycol, USP
COMMON NAME:	Propylene Glycol, USP
CHEMICAL NAME:	1,2-dihydroxy propane
SYNONYMS:	Methylene Glycol, Methyl Glycol, 1, 2-Propanediol
CHEMICAL FORMULA:	$C_3H_8O_2$
CHEMICAL FAMILY:	Diol

SECTION 2: COMPOSITION AND INGREDIENTS

CHEMICAL NAME	CAS#	% w/w	OSHA PEL	ACGIH TLV	IDLH
Propylene Glycol	57-55-6	100	NE	NE	NE

NE = Not Established

SECTION 3: HAZARDS INDENTIFICATION

EMERGENCY OVERVIEW: Material is a clear, colorless solution.

Symptoms of Overexposure by Route of Exposure:

Inhalation: No adverse effects via Inhalation.

Contact with Skin: Mild irritant and defatting agent, especially on prolonged contact.

Contact with eyes: May cause transitory stinging and tearing.

Ingestion: Relatively non-toxic. Ingestion of sizable amount (over 100 mL) may cause some gastrointestinal upset and temporary central nervous system depression. Effects appear more severe in individuals with kidney problems.

Chronic exposure: Lactic acidosis, stupor, and seizures have been reported following chronic ingestion.

Aggravation of Pre-existing conditions: Kidney disorders.

SECTION 4: FIRST AID MEASURES

Skin Exposure: Remove any contaminated clothing. Wash skin with soap and water for at least 15 minutes. Get medical attention if irritation develops or persists.

Eye Exposure: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation persists.

Inhalation: Remove to fresh air. Not expected to require first aid measures.

Ingestion: Not expected to require first aid measures. Give several glasses of water to drink and dilute. If large amounts are swallowed, seek medical advice.

Note to physician: In case of ingestion, monitor for acidosis and central nervous system changes. Exposed persons with previous kidney dysfunction may require special treatment.

SECTION 5: FIRE / EXPLOSION HAZARDS & FIRE-FIGHTING MEASURES

Flash Point: 99° C Auto ignition Temperature: 371° C

Flammable Limits (in air by volume, %): Lower: 2.6 Upper: 12.5

Fire Extinguishing Equipment: Use extinguishing agent suitable for type of surrounding fire.
Water Spray: OK Carbon Dioxide: OK
Foam: OK Dry Chemical: OK Other: Any "ABC" Class

Unusual Fire and Explosion Hazards: Containers may explode in the heat of the fire.
Explosion Sensitivity to Mechanical Impact: Not sensitive.
Explosion Sensitivity to Static Discharge: Not sensitive.

Special Fire Fighting Procedures: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by the DOT *Emergency Response Guidebook,* a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Isolate immediate hazard area and keep unauthorized personnel out. Contain spill if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk. Cool equipment exposed to fire with water, if it can be done with minimal risk.

NFPA HAZARD CLASS:		
	Health:	0 (None)
	Flammability:	1 (Slight)
	Reactivity:	1 (Slight)

SECTION 6: SPILL AND LEAK PROCEDURES

Spill and Leak Response:

For small releases of this product, wear latex or nitrile gloves and safety glasses. Absorb spilled liquid and rinse area thoroughly with soap and water.

For large or uncontrolled releases, ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal equipment and specified in section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Collect liquid in an appropriate container or absorb with an inert material (e.g. vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer.

SECTION 7: HANDLING AND STORAGE

SDS #527

Work and Hygiene Practices: As with all chemicals, avoid getting this product ON YOU or IN YOU. Do not eat, drink, smoke or apply cosmetics while handling the product. Wash hands thoroughly after handling.

Storage and Handling Practices: Store only in approved containers. Keep away from any incompatible materials or conditions (see Section 10). Store in a dry ventilated area at a temperature of 15°C to 30°C (59°F to 86°F). Protect from light.

Protective Practices During Maintenance of Contaminated Equipment: When cleaning non-disposable equipment, wear latex or nitrile gloves (double gloving is recommended), goggles, and lab coat. Wash equipment with soap and water. All needles, syringes, vials and other disposable items contaminated with this product should be disposed of properly.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ventilation and Engineering Controls: Use with adequate ventilation. Follow standard medical product handling procedures.

Respiratory Protection: Not normally required for routine, medical administration of this product. A NIOSH certified air-purifying respirator may be used under conditions where airborne concentrations are expected to be excessive. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHAs 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirator's use.

Eye Protection: The use of chemical goggles to safeguard against potential eye contact, irritation, or injury is recommended.

Hand Protection: Use protective gloves. Wash hands before and after using gloves.

Body Protection: Use clean body covering.

Product Preparation Instructions for Medical Personnel: Follow standard procedure for handling pharmaceutical materials and recommendations presented on the Package Insert.

SECTION 9: PHYSICAL / CHEMICAL PROPERTIES

Boiling Point:	188.2° C	Vapor Pressure:	0.129@25°C
Melting/Freezing Point:	-59° C	pH:	ND
Water Solubility:	Soluble	Water Reactive:	No
Specific Gravity (Water =1):	1.0361	Evaporation Rate (Butyl acetate = 1):	0.01
Appearance/Odor:	Clear, colorless, odorless, oily liquid		

ND = No Data

SECTION 10: STABILITY AND REACTIVITY

Stability:	Stable under labeled storage conditions.
Incompatible Materials:	Strong oxidizing agents
Hazardous Polymerization:	Will not occur.

SDS #527

Conditions to Avoid: Heat, ignition sources, and incompatibles

Hazardous Decomposition Products: CO_2, CO, aldehydes

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicity Data:

Oral LD50 (rat) = 20 g/kg
Skin LD50 (rabbit) = 20.8 g/kg
Irritation eye (rabbit) = 500 mg/24H mild

Suspected Cancer Agent: This product has **NOT** been identified as a carcinogen by NTP, IARC, ACGIH, OSHA, or CA Prop 65.

Irritancy of Product: This product may be irritating to eyes and other tissues.

Reproductive Toxicity Information:

Mutagenicitv: DNA inhibition: Subcutaneous mouse = 8000mg/kg, Cytogenic Analysis: Subcutaneous mouse = 8000 mg/kg, Cytogenic analysis: Hamster, Fibroblast = 32 gm/L.

Embryotoxicitv/Teratogenicity/Reproductive Toxicity: When propylene glycol was given at 30% in the diet, it affected reproduction rates in rats. It has generally not affected fertility or reproduction, except at very high dosed where effects could be attributed to nutritional deficiency.

SECTION 12: ECOLOGICAL INFORMATION

When released into the soil, this material is expected to readily biodegrade. When released into the soil, the material is expected to leach into ground water. When released into water this material is expected to readily degrade. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity: No information found.

SECTION 13: WASTE DISPOSAL

Preparing Wastes for Disposal: Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of unused contents according to federal, state, and local regulations.

U.S. EPA Waste Number: None

SECTION 14: TRANSPORTATION INFORMATION

SDS #527

This Material is not Hazardous as Defined by 49 CFR 172.101 by the U. S. Department of Transportation

SECTION 15: REGULATORY INFORMATION

U.S. REGULATIONS:

U.S. SARA Reporting Requirements: The components of this product are not subject to the reporting requirements of Sections 302, 304 and 313 of Title II of the Superfund Amendments and Reauthorization Act.

U.S. SARA Threshold Planning Quantity: Not applicable

U.S. CERCLA Reportable Quantities (RQ): Not applicable

U.S. TSCA Inventory Status: Propylene glycol is a "drug" as defined by the Federal Food, Drug and Cosmetic Act and is therefore not a chemical substance under TSCA.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): This product does NOT contain a chemical known to the State of California to cause developmental and reproductive effects.

Other U.S. Federal Regulations: Based on this product's use, the requirements of the OSHA Bloodborne pathogen Standard (29 CFR 1910.1030) are not applicable.

ANSI Labeling (Based on 129.1. Provided to Summarize Occupational Exposure Hazards):

SECTION 16: OTHER INFORMATION

None.