

Section 1. Product and Company Information

Product:	Propylene Glycol USP/EP
Company:	Ingredient Supplier 13320 Emmett Rd. Houston, TX 77041 USA Phone: (832) 795-6898
Product Name:	Propylene Glycol USP
SDS#	400041020103
CI#:	N/A
Synonym:	N/A
Recommended Use:	We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative. Uses in Coatings, consumer. Use in Cleaning Agents, consumer. Functional Fluids, consumer. Consumer use in agrochemicals. Other Consumer Uses Humectant and solvent for: Foodstuffs. Flavors. Fragrances. Cosmetics. Pharmaceuticals. Personal care applications. Manufacture of substance, industrial. Distribution of substance, industrial. Formulation & (re)packing of substances and mixtures, industrial. Use in laboratories, industrial. Use as binders and release agents, professional. Not for use in cat food.
Prepared By:	Ingredient Supplier 13320 Emmett Rd. Houston, TX 77041 USA
Emergency Contact Number	CHEMTREC - USA (English) Local Number (National): +1-800-424-9300 Toll-Free Number: 1-800-424-9300

Section 2. Hazard Identification

Hazard Classification: This material is not hazardous under the criteria of the Federal OSHA

Hazard Communication Standard 29CFR 1910.1200.

Other Hazards: No data available.

Section 3. Composition / Information on Ingredients

Synonyms: Propylene Glycol
Substance/Mixture: This product is a substance.

Components:	Component	CASRN	Concentration
	Propylene Glycol	57-55-6	> 99.8%

Section 4. First Aid Measures

General Advice: If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air; if effects occur, consult a physician.

Skin Contact: Wash off with plenty of water.

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.

Ingestion: No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician: No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

Section 5. Fire Fighting Measures

Suitable Extinguishing Media: Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective.

Unsuitable Extinguishing Media: Do not use direct water stream. May spread fire.

Specific Hazards Arising From The Substance or Mixture

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.

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.

Advice for Firefighters:

Fire Fighting Procedures: 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.

Section 6. Accidental Release and Clean-Up Procedures

Personal Precautions, Protective Equipment and Emergency Procedures: Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Keep unnecessary and unprotected personnel from entering the area. Keep personnel out of low areas.

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

Methods and Materials for Containment and Cleaning Up: Contain spilled material if possible. Small spills: Any 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 Considerations, for additional information.

Section 7. Handling and Storage

Precautions for Safe Handling: Product handled hot may require additional ventilation or local exhaust. Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.

Conditions for Safe Storage: Store away from direct sunlight or ultraviolet light. Keep container tightly closed when not in use. Store in a dry place. Protect from atmospheric moisture. Store in the following material(s): Stainless steel. Aluminum. Container lined with phenolic or epoxy-phenolic FDA food contact approved coating. 316 stainless steel. Opaque HDPE plastic container.
 No special storage conditions required.

Storage Stability

Shelf Life: Use within 24 Months

Section 8. Exposure Controls / Personal Protection

Control Parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of Listing	Value/Notation
Propylene Glycol	US WEEL	TWA	10 mg/m ³

Exposure Controls

Engineering Controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual Protection Measures

Eye/Face Protection: Use safety glasses (with side shields). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

Skin Protection

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.

Other Protection:

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

Respiratory Protection:

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. In misty atmospheres, use an approved particulate respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

Section 9. Physical and Chemical Properties

Appearance

Physical State:	Liquid
Color:	Colorless
Odor:	Odorless
Odor Threshold:	No test data available.
pH:	Not applicable
Melting Point/Range:	< -20 °C (< -4 °F) EC METHOD A1
Freezing Point:	< -20 °C (< -4 °F) EC METHOD A1
Boiling Point (760 mmHg):	184 °C (363 °F) at 752.46 mmHg EC Method A2
Flash Point:	closed cup 104 °C (219 °F) at 1,000.1 hPa EC Method A9 (PMCC)
Evaporation Rate (Butyl Acetate = 1):	0.01 Estimated.
Flammability (solid, gas):	Not applicable to liquids.
Lower Explosion Limit / Lower Flammability Limit:	2.6 % vol Estimated.
Upper Explosion Limit / Upper Flammability Limit:	12.5 % vol Estimated.
Vapor Pressure:	20 Pa at 25 °C (77 °F) EC Method A4
Relative Vapor Density (air = 1):	2.62 Literature
Relative Density (water = 1):	1.03 at 20 °C (68 °F) / 20 °C EC Method A3
Water Solubility:	100 % at 20 °C (68 °F) EC Method A6
Partition Coefficient: N-Octanol/Water:	log Pow: -1.07 Measured

Auto-Ignition Temperature:	> 400 °C (> 752 °F) at 100.01 kPa EC Method A15
Decomposition Temperature:	No test data available.
Dynamic Viscosity:	43.4 mPa.s at 25 °C (77 °F) Literature
Kinematic Viscosity:	No test data available.
Explosive Properties:	Not explosive.
Oxidizing Properties:	No..
Liquid Density:	1.03 g/cm ³ at 20 °C (68 °F) Literature
Molecular Weight:	No data available.
Percent Volatility:	No data available.
Pour Point:	< -57 °C (< -71 °F) Literature

NOTE: The physical data presented above are typical values and should not be construed as a specification.

Section 10. Stability and Reactivity Data

Reactivity:	No data available.
Chemical Stability:	Stable under recommended storage conditions. See Storage, Section 7. Hygroscopic
Possibility of Hazardous Reactions:	Polymerization will not occur.
Conditions to Avoid:	No data available.
Incompatible Materials:	Avoid contact with: Strong acids. Strong bases. Strong oxidizers.
Hazardous Decomposition Products:	Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes. Alcohols. Ethers. Organic acids.

Section 11. Toxicological Information

Toxicological information appears in this section when such data is available.

Acute Toxicity

Acute Oral Toxicity:	Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts. LD50, Rat, > 20,000 mg/kg
Acute Inhalation Toxicity:	At room temperature, exposure to vapor is minimal due to low volatility. Mist may cause irritation of upper respiratory tract (nose and throat). LC50, Rabbit, 2 Hour, dust/mist, 317.042 mg/l No deaths occurred at this concentration.
Acute Dermal Toxicity:	Prolonged skin contact is unlikely to result in absorption of harmful

Skin Irritation/Corrosion:	amounts. LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.
Serious Eye Damage/Eye Irritation:	Prolonged contact is essentially nonirritating to skin. Repeated contact may cause flaking and softening of skin.
Sensitization:	May cause slight temporary eye irritation. Corneal injury is unlikely. Mist may cause eye irritation.
Teratogenicity	Did not cause allergic skin reactions when tested in humans. For respiratory sensitization: No relevant data found.
Carcinogenicity:	Did not cause birth defects or any other fetal effects in laboratory animals.
Reproductive Toxicity	Did not cause cancer in laboratory animals.
STOT - Single Exposure:	In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.
STOT - Repeated Exposure:	Evaluation of available data suggests that this material is not an STOT-SE toxicant.
Mutagenicity:	In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.
Aspiration Hazard:	In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.
Aspiration Hazard:	Based on physical properties, not likely to be an aspiration hazard.

Section 12. Ecological Information

Ecotoxicological information appears in this section when such data is available.

Toxicity

Acute Toxicity to Fish:	Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested). LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 40,613 mg/l, OECD Test Guideline 203
Acute Toxicity to Aquatic Invertebrates	LC50, Ceriodaphnia dubia (water flea), static test, 48 Hour, 18,340 mg/l, OECD Test Guideline 202
Acute Toxicity to Algae/Aquatic Plants:	ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 19,000 mg/l, OECD Test Guideline 201
Toxicity to Bacteria	NOEC, Pseudomonas putida, 18 Hour, > 20,000 mg/l, Method Not Specified.
Chronic Aquatic Toxicity	
Chronic Toxicity to Aquatic	NOEC, Ceriodaphnia dubia (water flea), semi-static test, 7 d,

Invertebrates number of offspring, 13,020 mg/l

Persistence and Degradability

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

Biodegradation: 81%

Exposure Time: 28 d

Method: OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

Biodegradation: 96%

Exposure Time: 64 d

Method: OECD Test Guideline 306 or Equivalent

Theoretical Oxygen Demand: 1.68 mg/mg

Chemical Oxygen Demand (COD): 1.53 mg/mg

Biological Oxygen Demand (BOD)

Incubation Time	BOD
5 d	69.000%
10 d	70.000%
20 d	86.000%

Photodegradation Atmospheric Half-Life: 10 Hour

Method: Estimated

Bioaccumulative Potential

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition Coefficient: No data available

Bioaccumulative Potential

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition Coefficient: -1.07

n-octanol/water(log Pow):

Measured Bioconcentration factor (BCF): 0.09 Estimated

Mobility in Soil

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.

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): < 1 Estimated.

Section 13. Disposal Consideration

Disposal Methods

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. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE 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: Composition Information. 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.

Section 14. Transportation Information

DOT Not regulated for transport

Classification for SEA transport Not regulated for transport

(IMO-IMDG):

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Consult IMO regulations before transporting ocean bulk

Code

Classification for AIR transport Not regulated for transport

(IATA/ICAO):

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. 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.

Section 15. Regulatory Information

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

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.

Pennsylvania Worker and Community Right-To-Know Act:

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	CASRN
Propylene Glycol	57-55-6

California Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986)

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.

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Section 16. Other Information

Product Literature

Additional information on this and other products may be obtained by visiting our web page.

Hazard Rating System

NFPA

Health	Fire	Reactivity
1	1	0

Revision

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

TWA	8-hr Time Weighted Average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

Date of Issue: 12/08/2019
Reason of Issue: Revision
Prepared by: Ingredient Supplier
 13320 Emmett Rd
 Houston, Texas 77041
 United States

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responsibility for any loss, damage or expense, direct or consequential, arising out of use. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for his own particular use.

For INGREDIENT SUPPLIER

Chris Hill

(AUTHORIZED SIGNATORY)