

SILVER FERN CHEMICAL



Safety Data Sheet

Glycol Ether PNB

SECTION 1: IDENTIFICATION

Product Name: Glycol Ether PNB

CAS Number: 5131-66-8

Chemical Name: Propylene Glycol Monobutyl Ether

Synonyms: 1-butoxy-2-propanol; n-butoxypropanol; propylene glycol n-butyl ether

Uses: solvent in coatings, printing inks, cleaners, lubricants

Company

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Business Contact

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24 Hour Emergency Contact

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SECTION 2: HAZARD IDENTIFICATION

Warning



H227: Combustible liquid

H320: Causes eye irritation

H315: Causes skin irritation

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

CAS #	Content (W/W)	Hazardous Ingredients
5131-66-8	>95.0%	1-Butoxy-2-propanol
15821-83-7	< 5.0%	1-propanol-2-butoxy

SECTION 4: FIRST AID MEASURES

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing. Get immediate medical advice/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician.

Notes to Physician: If burn is present, treat as any thermal burn, after decontamination. 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

Flash Point: 63 °C (145 °F) ASTM D3278

Lower/Upper explosion limit in air: Lower: 1.1 %(V) Upper: 8.4 %(V)

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

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 reigniting 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. 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. Avoid accumulation of water. Product may be carried across water surface spreading fire or contacting an ignition source.

Special Protective Equipment for Firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance. Wear positive-pressure self-contained breathing apparatus (SCBA) and protective firefighting clothing (includes firefighting helmet, coat, trousers, boots, and gloves). Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions: Isolate area. No smoking in area. 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. Refer to Section 7, Handling, for additional precautionary measures.

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

Further information: Small spills - Absorb with materials such as: Sand. Vermiculite. Collect in suitable and properly labeled containers. Large spills: Contain spilled material if possible. Pump into suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION 7: HANDLING AND STORAGE

Storage: Store in the following material(s): Carbon steel. Stainless steel. Phenolic lined steel drums. Do not store in: Aluminum. Copper. Galvanized iron. Galvanized steel. See Section 10 for more specific information.

Handling:

General Handling: Avoid contact with eyes. Wash thoroughly after handling.

Other Precautions: Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

Personal Protective Equipment (PPE)

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. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Butyl rubber. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Natural rubber ("latex"). Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Eye protection: Use chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Body protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

General safety and hygiene measures: Use good personal hygiene. Do not consume or store food in the work area. Wash hands before smoking or eating.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Color	Colorless
Odor	Ether
Flash Point - Closed Cup	63 °C (145 °F) ASTM D3278

Flammable Limits In Air	Lower: 1.1 %(V) Upper: 8.4 %(V)
Autoignition Temperature	260 °C (500 °F)
Vapor Pressure	0.85 mmHg @ 20 °C
Boiling Point (760 mmHg)	171 °C (340 °F)
Vapor Density (air = 1)	4.6
Specific Gravity (H2O = 1)	0.878 25 °C/25 °C ASTM D891
Freezing Point	< -80 °C (< -112 °F)
Melting Point	No test data available
Solubility in Water (by weight)	5.5 % @ 25 °C Literature
Molecular Weight	132.2g/mol
Octanol/Water Partition Coefficient	0.98 estimated
Dynamic Viscosity	2.8 mPa.s @ 25 °C

SECTION 10: STABILITY AND REACTIVITY

Stability/Instability

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

Conditions to Avoid: Do not distill to dryness. Product can oxidize at elevated temperatures. Generation of gas during decomposition can cause pressure in closed systems.

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

Hazardous Polymerization: Will not occur.

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. Carbon dioxide.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Toxicity

Ingestion

LD50, Rat, female 2,124 - 2,700 mg/kg

LD50, Rat, male 2,612 - 5,500 mg/kg

Skin Absorption

LD50, Rat > 2,000 mg/kg

Repeated Dose Toxicity

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

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.

Genetic Toxicology

In vitro genetic toxicity studies were negative.

SECTION 12: ECOLOGICAL INFORMATION

Movement & Partitioning

Bioconcentration potential is low (BCF less than 100 or log Pow less than 3). Potential for mobility in soil is very high (Koc between 0 and 50).

Henry's Law Constant (H): 3.86E-6 atm*m3/mole; 25 °C Estimated

Partition coefficient, n-octanol/water (log Pow): 0.98 Estimated

Partition coefficient, soil organic carbon/water (Koc): 1.3 - 6.0 Estimated

Persistence and Degradability

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

OECD Biodegradation Tests:

Biodegradation	Exposure Time	Method
67 %	28	OECD 301B Test
60.5 %	28	OECD 301D Test
90	28	OECD 301E Test

Biological oxygen demand (BOD):

BOD 5	BOD 10	BOD 20	BOD 28
1.1 - 1.6 %			

ECOTOXICITY

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

Fish Acute & Prolonged Toxicity

LC50, guppy (*Poecilia reticulata*), 96 h: 560 - 1,000 mg/l

Aquatic Invertebrate Acute Toxicity

LC50, water flea *Daphnia magna*: > 1,000 mg/l

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal of substance: 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.

SECTION 14: TRANSPORT INFORMATION

DOT Bulk

Proper Shipping Name: COMBUSTIBLE LIQUID, NOS

Technical Name: PROPYLENE GLYCOL MONOBUTYL ETHER

Hazard Class: COMBUSTIBLE LIQUID ID Number: NA1993 Packing Group: PG III

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. 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

OSHA Hazard Communication Standard

This product is 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 Yes

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:

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 Special Hazardous Substances List:

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)

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.

US. Toxic Substances Control Act

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

SECTION 16: OTHER INFORMATION

DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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