Safety Data Sheet
Glycol Ether PnB

LEVEL 7 CHEMICAL & SUPPLY
Chemicals, Sanitation, Testing, Pumps, Beer Brewing, & Wine Making

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifier
Product name: Glycol Ether PnB
Product number: PnB
Synonym(s): Butoxypropanol; n-Butoxy-2-propanol; 1-Butoxy-2-propanol; Propylene glycol monobutyl ether; Propylene glycol n-butyl ether

1.2 Relevant identified uses of the substance or mixture and uses advised against
General use: None specified
Uses advised against: No data available

1.3 Details of the supplier and of the safety data sheet
Manufacturer/Distributor
Level 7 Chemical, Inc.
255 Sturgis Rd
Conway, AR 72034
1-855-927-1777

1.4 Emergency telephone number
CHEMTREC: 1-800-424-9300 (USA)

SECTION 2 - HAZARDS IDENTIFICATION

2.1 Classification of substance or mixture
Product definition: Mixture
Classification in accordance with 29 CFR 1910 (OSHA HCS) and Regulation EC No. 1272/2008
Flammable Liquid - Category 4 [H227]
Skin Irritation - Category 2 [H315]
Eye Irritation - Category 2A [H319]

2.2 Label elements
Hazard symbol(s):

GHS07

Signal word: Warning

Hazard statement(s):
H227 - Combustible liquid
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary statements:

[Prevention]
P210 - Keep away from heat, open flames and hot surface. No smoking.
P264 - Wash hands and other exposed skin areas thoroughly after handling.
P280 - Wear protective gloves, protective clothing and eye protection.

[Response]
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P321 + P312 - Specific treatment: Call a POISON CENTER or doctor if you feel unwell. Refer to Section 4 of this SDS.
P332 + P337 + P313 - If skin irritation occurs or eye irritation persists: Get medical attention.
P362 - Take off contaminated clothing and wash before reuse.
P370 + P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide for extinction.

[Storage]
P403 + P235 - Store in a well-ventilated place. Keep cool.

[Disposal]
P501 - Dispose of contents and containers in accordance with national and local regulations.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
None as defined under 29 CFR 1900.1200.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances
Not applicable

3.2 Mixtures

% by Weight	Ingredient	CAS Number	EC Number	Index Number	GHS Classification
> 95.0	Butoxypropanol	5131-66-8	225-878-4	603-052-00-8	H315, H319
≤ 5.0	Butoxy-1-propanol	15821-83-7	605-138-0	———	———

There are no additional ingredients present in this product which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

SECTION 4 – FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product mist or vapor causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. If unconscious, maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. If symptoms persist or if the victim feels unwell, seek medical attention.

Eyes: Immediately flush eyes with large amounts of water or saline solution for at least 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do after first 2 minutes and continue rinsing. If irritation persists seek medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing. Wash the affected area with soap and water followed by thorough rinsing. Wash contaminated clothing and shoes before reuse. If irritation persists, seek medical attention.

Ingestion: Rinse mouth with water if the victim is conscious. Remove dentures if present. Do not induce vomiting unless directed to do so by medical personnel. Vomiting may occur spontaneously. To prevent aspiration of material into the lungs, lay the victim on one side with the head lower than the waist. Never give anything by mouth to an unconscious or convulsing person. Do not leave the victim unattended. Seek medical attention if the victim feels unwell or if a large quantity of material has been ingested.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes serious eye irritation with redness and discomfort. Vapor may cause eye irritation or corneal injury.

Skin: May cause moderate skin irritation with localized redness, itching and discomfort. Prolonged contact may cause defatting of the skin and dermatitis.

Inhalation: Inhalation of mist or vapor may cause irritation of the upper respiratory tract. May be harmful if inhaled. Symptoms may include depression of the central nervous system.

Ingestion: May cause irritation of the digestive tract with nausea, vomiting and diarrhea. May be harmful if swallowed. May cause depression of the central system with effects similar to those of acute inhalation.

Chronic: Individuals with pre-existing skin disorders or respiratory impairment may have increased susceptibility to the effects of exposure to this product. Prolonged or repeated skin contact may cause defatting of the skin, dermatitis or aggravate existing skin conditions.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to doctor and hospital personnel

Treat symptomatically and supportively.

SECTION 5 – FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable methods of extinction: Use extinguishing media suitable for the surrounding fire.
Unsuitable methods of extinction: Water jets or direct streams may spread the fire.

5.2 Special hazards arising from the substance or mixture

Combustible liquid! Vapors are heavier than air and can travel along the ground to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas. Closed containers may rupture due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: Avoid sources of ignition.

5.3 Advice to firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Water contaminated by this material must be contained from being discharged to any waterway, sewer or drain to prevent environmental contamination.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Evacuate non-essential personnel. Wear appropriate protective clothing and equipment designated in Section 8.2. Ventilate the area. Remove all sources of ignition. No smoking. Clean up spills immediately. Spills create a slip hazard.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways. Use water sparingly to minimize environmental contamination and reduce disposal requirements.

6.3 Methods and materials for containment and cleaning up

Approach spill from upwind direction. DO NOT flush spill down the drain. Cover drains and contain spill. Cover spill with a large quantity of inert absorbent. Do not use combustible material such as sawdust. Collect material using non-sparking tools and place into an approved container for proper disposal. Observe possible material restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from rinsing contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of in accordance with federal, state and local regulations.

6.4 Reference to other sections

For indications about waste treatment, see Section 13.

SECTION 7 – STORAGE AND HANDLING

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8.2. Do not get in eyes or on skin or clothing. Do not inhale mist or vapor. No smoking. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear an appropriate respirator. Wash contaminated clothing and shoes thoroughly before reuse.

Advice on protection against fire and explosion

Keep away from heat, hot surfaces and sources of ignition.

7.2 Conditions for safe storage, including any incompatibilities

Store in dry, cool, well-ventilated areas away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved containers having correct labeling. Keep containers tightly closed when not in use. Protect containers against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Containers are hazardous when empty as they contain product residue. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking, smoking or using the lavatory.

Eye/face protection: Wear safety glasses with unperforated side shields or protective splash goggles during handling or use.

Hand protection: Wear gloves made of ethyl vinyl alcohol laminate (EVAL), Nitrile rubber, latex or those recommended by glove supplier or protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of selected gloves must be greater than the intended use period.

Skin protection: Wear protective clothing. Wear protective boots if the situation requires.

Respiratory protection: Always use an approved respirator when vapor/aerosols exceed permissible exposure limits. Where risk assessment shows air-purifying respirators are appropriate use a half-mask respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

Environmental exposure controls: Do not empty into drains.

PPE must not be considered a long-term solution to exposure control. PPE usage must be accompanied by employer programs to properly select, maintain, clean fit and use. Consult a competent industrial hygiene resource to determine hazard potential and/or the PPE manufacturers to ensure adequate protection

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Clear, colorless liquid
Odor	Ethereal
Odor Threshold	No data available
Molecular Weight	132.2 g/mol
Chemical Formula	$C_7H_{16}O_2$
pH	No data available
Freezing/Melting Point	< - 85 °C (< - 121 °F)
Boiling Point, Range	165 - 175 °C (329 - 347 °F) @ 1,013 hPa
Evaporation Rate	No data available
Flammability (solid, gas)	Not applicable
Flash Point, Range	68.88 °C (156 °F) [ASTM D93]
Autoignition Temperature	260 °C (500 °F) @ 1,013 hPa
Decomposition Temperature	No data available

Lower Explosive Limit (LEL)	1.1% (v)
Upper Explosive Limit (UEL)	9.0% (v)
Vapor Pressure	0.84 hPa @ 20 °C
Vapor Density	4.6 [Air = 1]
Density	0.88 g/cc (7.34 lb/gal) @ 20 °C
Viscosity	2.8 mPa.s @ 20 °C
Viscosity, Kinematic	3.85 mm^2/s @ 20 °C
Solubility in Water	52 g/l @ 20 °C
Partition Coefficient (n-octanol/water)	log P_{ow} = 1.2 @ 20 °C
Oxidizing Properties	Not applicable
Explosive Properties	Not applicable
Volatiles by Weight @ 21 °C	100%

9.2 Other Data
None known

SECTION 10 – STABILITY AND REACTIVITY

10.1 Reactivity
This material is stable under normal handling conditions and use.

10.2 Chemical Stability
This material is stable under recommended storage and handling conditions.

10.3 Possibility of hazardous reactions
Hazardous polymerization will not occur.

10.4 Conditions to avoid
High temperatures, sources of ignition, hot surfaces, contact with incompatible materials

10.5 Incompatible materials
Strong acids, strong oxidizing agents

10.6 Hazardous decomposition products
Thermal decomposition products include oxides of carbon, ketones and organic acids.

SECTION 11 – TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Acute oral toxicity
LD_{50}, rat: 3,300 mg/kg

Acute inhalation toxicity
LC_{50}, rat: > 3.4 mg/l, 4 h

Acute dermal toxicity
LD_{50}, rat: > 2,000 mg/kg

Skin irritation
Causes skin irritation.

Eye irritation
Causes serious eye irritation.

Sensitization
No data available

Genotoxicity in vitro
No data available

Mutagenicity
No data available

Specific organ toxicity - single exposure
No data available

Specific organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Further information
This product contains no substances present at levels greater than or equal to the 0.1% threshold (de minimis) that are identified as a probable, possible, potential or confirmed carcinogens by ACGIH, IARC, NTP or OSHA. No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates that it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Material is practically non-toxic to aquatic organisms on an acute basis.

Acute toxicity to fish:	LC_{50} - Poecilia reticulata (Guppy), 96 h: > 560 - 1,000 mg/l
Acute toxicity to aquatic invertebrates:	EC_{50} - Daphnia (Water flea), 48 h: > 1,000 mg/l
Acute toxicity to aquatic plants:	ErC_{50} - Pseudokirchneriella subcapitata (Green algae), 72 h: >1,000 mg/l
Acute toxicity to microorganisms:	IC_{50} - Bacteria, 3 h: >1,000 mg/l

12.2 Persistence and degradability

This material is readily biodegradable.

12.3 Bioaccumulation potential

The bioaccumulation potential for this product is low.

12.4 Mobility in soil

The potential for mobility in soil is very high.

12.5 Results of PBT and vPvB assessment

This material is not persistent, bioaccumulative and toxic (PBT) and not very persistent and very bioaccumulative (vPvB).

12.6 Other effects

Additional ecological information

Do not allow material to run into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 – DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

RCRA F-Series: No listings above the reportable threshold (de minimis)

RCRA U-Series: No listings above the reportable threshold (de minimis)

SECTION 14 – TRANSPORTATION INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

May be reclassified as not regulated for transport in non-bulk packages having a maximum capacity less than or equal to 450 liters (119 gallons).

USA DOT (Ground Transportation) - Bulk	
Proper Shipping Name	Combustible liquid, n.o.s. (Glycol Ether PnB)
Hazard Class	Comb liq
NA	NA1993
Packing Group	III
NAREG	Guide #128
Packaging Authorization	Non-Bulk: 49 CFR 173.203; Bulk: 173.241
Packaging Exceptions	49 CFR 173.150
IMO/IMDG (Water Transportation)	Not regulated for transport (Consult IMO regulations before transporting ocean bulk.)
ICAO/IATA (Air Transportation)	Not regulated for transport
RID/ADR (Rail Transportation)	Not regulated for transport

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910-1200.

OSHA Process Safety Management Standard: This product is not regulated under OSHA PSM Standard 29 CFR 1910.119.

EPA Risk Management Planning Standard: This product is not regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

Toxic Substance Control Act (TSCA) Inventory: All substances in this product are listed on the TSCA Inventory. This product is not subject to TSCA 12(b) Export Notification.

Drug Enforcement Administration (DEA) List 2, Essential Chemicals (21 CFR 1310.02(b)) and 1310.4(f)(2)) and Chemical Code Number: No listings

Drug Enforcement Administration (DEA) Lists 1 & 2, Exempt Chemical Mixtures (21 CFR 1310.12(c)) and Code Number: No listings

Department of Homeland Security (DHS) Chemical Facility Anti-Terrorism Standards (CFATS) Chemicals: No listings

Superfund Amendments and Reauthorization Act (SARA)
SARA Section 311/312 Hazard Categories
Combustible liquid Causes skin irritation and serious eye irritation

SARA 313 Information: This material does not contain any substances that are subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA 302/304 Extremely Hazardous Substance: This material does not contain any substances that are subject to the reporting levels established by these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: This material does not contain any substances that are subject to the reporting levels established by these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): No components of the product exceed the threshold (de minimis) reporting levels for hazardous wastes established by CERCLA.

Clean Air Act (CAA)
This product does not contain Hazardous Air Pollutants (HAPs) designated in CAA Section 112 (b).
This product does not contain Class 1 ozone depletors.
This product does not contain Class 2 ozone depletors.

Clean Water Act (CWA)
This product does not contain Hazardous Substances.
This product does not contain Priority Pollutants.
This product does not contain Toxic Pollutants.

U.S. State Regulations
California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986
This product contains no chemical(s) known to the state of California to cause cancer birth defects or reproductive harm in concentrations that exceed the threshold (de minimis) reporting levels established under Proposition 65.

Other U.S. State Inventories
None of the components of this product are listed on any State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists.

Canada
WHMIS Hazard Classification: Combustible liquid Causes skin irritation and serious eye irritation

Canadian National Pollutant Release Inventory (NPRI): None of the components of this product are listed on the NPRI.

European Economic Community
WGK, Germany (Water danger/protection): 1 (slightly hazardous to water)

Global Chemical Inventory Lists

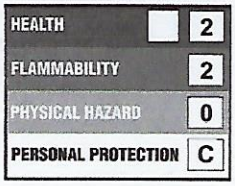
Country	Inventory Name	Listed
Canada	Domestic Substance List (DSL)	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (KECI)	Yes
Philippines	Philippines Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*Yes - All components of this product comply with the inventory requirements administered by the governing country.
No - One or more components of this product are not on the inventory or are exempt from listing.

15.2 Chemical safety assessment
For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

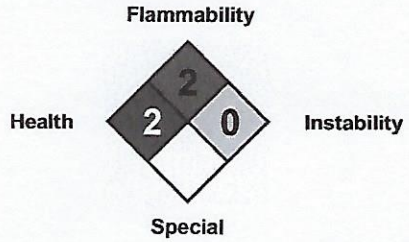


C = safety glasses, gloves & apron

HMIS Hazard Rating Legend
0 = Minimal 1 = Slight 2 = Moderate
3 = Serious 4 = Severe
* = Chronic Health Hazard

NFPA Hazard Rating Legend
0 = Insignificant 1 = Slight 2 = Moderate
3 = High 4 = Extreme

National Fire Protection Association (NFPA)



Abbreviation Key

ACGIH	American Conference of Governmental Industrial Hygienists
ADR	Accord Dangereux Routier (European regulations concerning the international transport of dangerous goods by road)
CAS	Chemical Abstract Services
CFR	Code of Federal Regulations
COC	Cleveland Open Cup
DOT	Department of Transportation
EC_{50}	Half maximal effective concentration
EMS	Emergency Response Procedures for Ships Carrying
EPA	Environmental Protection Agency
ErC_{50}	Reduction of Growth Rate
ERG	Emergency Response Guide Book
FDA	Food and Drug Administration
GHS	Globally Harmonized System of Classification and Labelling of Chemicals (GHS)
HCS	Hazard Communication Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IC_{50}	Half Maximal Inhibitory Concentration
ICAO	International Civil Aviation Organization
IDLH	Immediately Dangerous to Life and Health
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
LC_{50}	50% Lethal Concentration
LD_{50}	50% Lethal Dose
LD_{Lo}	Lowest Lethal Dose
mppcf	Millions of Particles Per Cubic Foot
NA	North America
NAERG	North American Emergency Response Guide Book
NIOSH	National Institute for Occupational Safety & Health
NTP	National Toxicology Program
OSHA	Occupational Safety and Health Administration
PBT	Persistent, Bioaccumulating and Toxic
PEL	Permissible exposure limit
PMCC	Pensky-Martens Closed Cup
ppm	Parts Per Million
RCRA	Resource Conservation and Recovery Act
RID	Dangerous Goods by Rail
RQ	Reportable Quantity
TCC/Tag	Tagliabue Closed Cup
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time-weighted Average
UN	United Nations
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulating
WHMIS	Workplace Hazardous Materials Information System

DISCLAIMER OF RESPONSIBILITY

The information on this SDS 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 damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

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