

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 1 of 10

## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION

Product identifier used on the label

: **Comsol PNB**

Other means of identification : None assigned.

Recommended use of the chemical and restrictions on use

: Solvent  
Use pattern: professional use  
Restriction on use: None known

Chemical family : Glycol ethers

Name, address, and telephone number  
of the supplier:

**Comet Chemical Company Ltd.**

3463 Thomas Street  
Innisfill, ON, Canada  
L9S 3W4

Supplier's Telephone # : (705) 436-5580

**24 Hr. Emergency Tel #** : GFL Environmental - 1-888-772-2543

Name, address, and telephone number of  
the manufacturer:

Refer to supplier

### SECTION 2. HAZARDS IDENTIFICATION

Classification of the chemical

Clear colourless liquid. Sweet ethereal odour.

Most important hazards: Causes skin irritation. Causes serious eye irritation.

This material is classified as hazardous under U.S. OSHA regulations (29CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

Hazard classification:

Flammable liquid - Category 4

Skin Irritation - Category 2

Serious eye damage/eye irritation - Category 2A

Label elements

Hazard pictogram(s)



Signal Word

WARNING!

Hazard statement(s)

Combustible liquid.

Causes skin irritation.

Causes serious eye irritation.

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 2 of 10

## SAFETY DATA SHEET

### Precautionary statement(s)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No Smoking  
Wash thoroughly after handling.  
Wear protective gloves and eye/face protection.  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.  
Continue rinsing.  
If eye irritation persists: Get medical advice/attention.  
If on skin: Wash with plenty of water.  
Take off contaminated clothing and wash it before reuse.  
If skin irritation occurs: Get medical advice/attention.  
In case of fire: Use water fog, dry chemical, CO<sub>2</sub> or 'alcohol' foam to extinguish.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Other hazards

Other hazards which do not result in classification: Burning produces obnoxious and toxic fumes. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Inhalation of high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects.

Ecological information:

See Section 12 for more environmental information. Avoid release to the environment.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance with impurities

<u>Chemical name</u>	<u>Common name and synonyms</u>	<u>CAS #</u>	<u>Concentration (% by weight)</u>
Propylene glycol n-butyl ether	Propylene glycol monobutyl ether	5131-66-8	>95
<b>Impurities:</b>			
Propanol, 2-butoxy-	1-Propanol-2-Butoxy	15821-83-7	<5

## SECTION 4. FIRST-AID MEASURES

### Description of first aid measures

- Ingestion* : Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Get medical advice/attention if you feel unwell.
- Inhalation* : If breathed in, move person into fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical advice/attention if you feel unwell.
- Skin contact* : Flush skin thoroughly with running water for at least 15 to 20 minutes. Remove and wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.
- Eye contact* : Flush eyes with water for at least 15 minutes. Remove contact lenses, if present and easy to do. If eye irritation persists: get medical advice/attention.

### Most important symptoms and effects, both acute and delayed

- : Causes skin irritation. Symptoms may include redness, blistering, pain and swelling. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Inhalation of high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

### Indication of any immediate medical attention and special treatment needed

- : Treat symptomatically.

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 3 of 10

## SAFETY DATA SHEET

### SECTION 5. FIRE-FIGHTING MEASURES

#### Extinguishing media

##### *Suitable extinguishing media*

: Carbon dioxide (CO<sub>2</sub>); Dry chemical; Alcohol resistant foam; Water fog

##### *Unsuitable extinguishing media*

: Do not use a solid water stream as it may scatter and spread fire.

#### Special hazards arising from the substance or mixture / Conditions of flammability

: Combustible liquid and vapor. Keep away from flames and hot surfaces. Burning produces obnoxious and toxic fumes. Vapors are heavier than air and may spread along floors. Material will float on water and can be re-ignited at the water's surface. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure. After prolonged storage, may release explosive peroxides in the presence of air. Rate of peroxide formation is not known.

#### Flammability classification (OSHA 29 CFR 1910.106)

: Flammable liquid - Category 4

#### Hazardous combustion products

: Carbon oxides and other irritating fumes and smoke.

#### Special protective equipment and precautions for firefighters

##### *Protective equipment for fire-fighters*

: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Do not enter without wearing specialized protective equipment suitable for the situation. Firefighter's normal protective clothing (Bunker Gear) will not provide adequate protection. A full-body encapsulating chemical protective suit with positive pressure self-contained breathing apparatus (NIOSH approved or equivalent) may be necessary.

##### *Special fire-fighting procedures*

: Avoid breathing fumes, mists or vapors. Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

: Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Remove all sources of ignition. All persons dealing with the clean-up should wear the appropriate personal protective equipment. Refer to protective measures listed in sections 7 and 8.

**Environmental precautions** : Do not allow material to contaminate ground water system. If necessary, dike well ahead of the spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

#### Methods and material for containment and cleaning up

: Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Contact the proper local authorities.

#### Special spill response procedures

: In Canada: For 24-hour emergency assistance, call: 1-613-996-6666 (CANUTEC).

EPA/CERCLA Reportable quantity (RQ): See section 15.

### SECTION 7. HANDLING AND STORAGE

#### Precautions for safe handling

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 4 of 10

## SAFETY DATA SHEET

- : Use in a well-ventilated area. Keep away from flames and hot surfaces. - No smoking. Wear appropriate protective equipment. Wear protective gloves and eye/face protection. Bond and ground transfer containers and equipment to avoid static accumulation. Avoid breathing fumes, mists or vapors. Avoid generating vapours or mists. Avoid contact with eyes, skin and clothing. Do not eat, drink or smoke when using this product. Wash with soap and water after handling. Keep away from incompatibles. Keep containers closed when not in use. Empty containers retain residue (liquid and/or vapour) and can be dangerous.
- Conditions for safe storage** : Store in a well ventilated place. Keep cool. Keep away from heat and sources of ignition. Keep container tightly closed. Store away from incompatible materials. Do not store in direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment in or near storage area.
- Incompatible materials** : Oxidizing agents, acids, aldehydes, ketones, acrylates and various other materials.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

<b><u>Exposure Limits:</u></b>			
<b><u>Chemical Name</u></b>	<b><u>ACGIH TLV</u></b>		<b><u>OSHA PEL</u></b>
	<b><u>TWA</u></b>	<b><u>STEL</u></b>	<b><u>PEL</u></b> <b><u>STEL</u></b>
Propylene glycol n-butyl ether	N/Av	N/Av	N/Av      N/Av
Propanol, 2-butoxy-	N/Av	N/Av	N/Av      N/Av

#### **Exposure controls**

##### **Ventilation and engineering measures**

- : Apply technical measures to comply with the occupational exposure limits. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. Use explosion-proof electrical and ventilating equipment.
- Respiratory protection** : If airborne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. In misty conditions, wear NIOSH/MSHA approved mist respirator. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02. Advice should be sought from respiratory protection specialists.
- Skin protection** : Wear protective gloves. Advice should be sought from glove suppliers.
- Eye / face protection** : Wear eye/face protection. Wear safety glasses with side shields ( or goggles).
- Other protective equipment** : Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.

##### **General hygiene considerations**

- : Avoid breathing fumes, mists or vapors. Avoid contact with skin, eyes and clothing. Do not eat, drink or smoke when using this product. Wash hands thoroughly after using this product, and before eating, drinking or smoking. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Physical State** : Liquid.
- Colour** : Clear, colorless.
- Odour** : Sweet ethereal odour.

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 5 of 10

## SAFETY DATA SHEET

Odour threshold : Not available.

pH : N/Av

Melting Point/Freezing point : >-85°C

Initial boiling point and boiling range

: 170°C

Flash point : 62°C

Flashpoint (Method) : closed cup

Evaporation rate (BuAe = 1) : Not available.

Flammability : Not applicable.

Lower explosion or flammability limit (% by vol.)

: 1.1%

Upper explosion or flammability limit (% by vol.)

: 15%

Oxidizing properties : None known.

Explosive properties : Not explosive

Vapour pressure : 0.6 mm Hg

Relative vapour density : (Air = 1) 4.6

Relative density / Specific gravity

: 0.88

Solubility in water : Soluble

Other solubility(ies) : Not available.

Partition coefficient: n-octanol/water or Coefficient of water/oil distribution

: 1.2

Auto-ignition temperature : 260°C

Decomposition temperature : N/Av

Viscosity : 3.85mm<sup>2</sup>/s

Particle characteristics : Not applicable.

Volatiles (% by weight) : N/Av

Volatile organic Compounds (VOC's)

: N/Av

Absolute pressure of container

: N/Av

Flame projection length : N/Av

Other physical/chemical comments

: None known or reported by the manufacturer.

### SECTION 10. STABILITY AND REACTIVITY

Reactivity : Not normally reactive.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions

: No dangerous reaction known under conditions of normal use.

Conditions to avoid : Keep away from flames and hot surfaces. Keep away from direct sunlight. Avoid prolonged exposure to air. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.

Incompatible materials : Strong oxidizing agents; Strong acids; Strong alkalis

Hazardous decomposition products

: See Section 5 (Fire Fighting Measures).

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 6 of 10

## SAFETY DATA SHEET

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Information on likely routes of exposure:

Routes of entry inhalation : YES

Routes of entry skin &amp; eye : YES

Routes of entry Ingestion : YES

Routes of exposure skin absorption  
: NO

#### Potential Health Effects:

##### Signs and symptoms of short-term (acute) exposure

###### *Sign and symptoms Inhalation*

: Inhalation of high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects.

###### *Sign and symptoms ingestion*

: Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

###### *Sign and symptoms skin*

: Causes skin irritation. Symptoms may include redness, blistering, pain and swelling.

###### *Sign and symptoms eyes*

: Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling and blurred vision.

##### Potential Chronic Health Effects

: Prolonged overexposure may cause slight liver and kidney effects, such as increased organ weights.

##### Mutagenicity

: Not expected to be mutagenic in humans.

##### Carcinogenicity

: No components present at greater than 0.1% are considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

##### Reproductive effects & Teratogenicity

: Not expected to cause reproductive effects.

##### Sensitization to material

: Not expected to be a skin or respiratory sensitizer.

**Specific target organ effects** : This material is not classified as hazardous under U.S. OSHA regulations (29 CFR 1910.1200) (Hazcom 2012) and Canadian WHMIS regulations (Hazardous Products Regulations) (WHMIS 2015).

##### Medical conditions aggravated by overexposure

: Pre-existing skin, eye and respiratory disorders.

##### Synergistic materials

: No information available.

##### Toxicological data

: See below for toxicological data on the substance.

<u>Chemical name</u>	<u>LC<sub>50</sub>(4hr)</u>	<u>LD<sub>50</sub></u>	
	<u>inh, rat</u>	<u>(Oral, rat)</u>	<u>(Rabbit, dermal)</u>
Propylene glycol n-butyl ether	650 ppm (no deaths)	>3200mg/kg	>2000mg/kg
<b>Impurities:</b>			
Propanol, 2-butoxy-	N/Av	N/Av	N/Av

##### Other important toxicological hazards

: None reported by the manufacturer.

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 7 of 10

## SAFETY DATA SHEET

### SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity** : Not expected to be harmful to aquatic organisms. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters. See the following tables for the substance's ecotoxicity data.

#### Ecotoxicity data:

<u>Ingredients</u>	CAS #	Toxicity to Fish		
		LC50 / 96h	NOEC / 21 day	M Factor
Propylene glycol n-butyl ether	5131-66-8	560mg/L (Poecilia Reticulata)	N/Av	None.
Propanol, 2-butoxy-	15821-83-7	N/Av	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Daphnia		
		EC50 / 48h	NOEC / 21 day	M Factor
Propylene glycol n-butyl ether	5131-66-8	1000 mg/L (Daphnia magna)	N/Av	None.
Propanol, 2-butoxy-	15821-83-7	N/Av	N/Av	None.

<u>Ingredients</u>	CAS #	Toxicity to Algae		
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor
Propylene glycol n-butyl ether	5131-66-8	>1000mg/L (Selenastrum capricornutum)	560mg/L (Selenastrum capricornutum)	None.
Propanol, 2-butoxy-	15821-83-7	N/Av	N/Av	None.

#### Persistence and degradability

: Expected to be readily biodegradable.

#### Bioaccumulation potential

: See the following data for ingredient information.

<u>Components</u>	<u>Partition coefficient n-octanol/water (log Kow)</u>	<u>Bioconcentration factor (BCF)</u>
Propylene glycol n-butyl ether (CAS 5131-66-8)	1.2	3.16
Propanol, 2-butoxy- (CAS 15821-83-7)	N/Av	N/Av

**Mobility in soil** : There is no data available for this product.

#### Other Adverse Environmental effects

: No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### SECTION 13. DISPOSAL CONSIDERATIONS

Comsol PNB





SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 8 of 10

## SAFETY DATA SHEET

- Handling for Disposal** : Handle in accordance with good industrial hygiene and safety practice. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Refer to protective measures listed in sections 7 and 8.
- Methods of Disposal** : Dispose in accordance with all applicable federal, state, provincial and local regulations.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

### SECTION 14. TRANSPORT INFORMATION

Regulatory Information	UN Number	UN proper shipping name	Transport hazard class(es)	Packing Group	Label
49CFR/DOT	NA1993	Combustible liquid, n.o.s. (Propylene glycol mono-n-butyl ether)	Combustible.	III	
<b>49CFR/DOT Additional information</b>	Not regulated for road or rail shipment if packaged in non-bulk containers (450 Litres or less each). Refer to 49 CFR Section 173.150.				
TDG	None.	Not regulated.	not regulated	none	
<b>TDG Additional information</b>	None.				
ICAO/IATA	None.	Not regulated.	not regulated	none	
<b>ICAO/IATA Additional information</b>	None.				
IMDG	None.	Not regulated.	not regulated	none	
<b>IMDG Additional information</b>	None.				

**Special precautions for user** : Keep away from extreme heat and flame. Appropriate advice on safety must accompany the package.

**Environmental hazards** : This substance does not meet the criteria for an environmentally hazardous substance according to the IMDG Code. See ECOLOGICAL INFORMATION, Section 12.

### SECTION 15 - REGULATORY INFORMATION

#### US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 9 of 10

## SAFETY DATA SHEET

<u>Ingredients</u>	CAS #	TSCA Inventory	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
					Toxic Chemical	de Minimis Concentration
Propylene glycol n-butyl ether	5131-66-8	Yes	None.	None.	No	No
Propanol, 2-butoxy-	15821-83-7	No	N/Ap	N/Av	No	No

SARA TITLE III: Sec. 311 and 312, SDS Requirements, 40 CFR 370 Hazard Classes: Flammable; Skin irritation ; Eye irritation.

### US State Right to Know Laws:

The following chemicals are specifically listed by individual States:

<u>Ingredients</u>	CAS #	California Proposition 65		State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Propylene glycol n-butyl ether	5131-66-8	No	N/Ap	No	No	No	Yes	Yes	No
Propanol, 2-butoxy-	15821-83-7	No	N/Ap	No	No	No	No	No	No

### Canadian Information:

All ingredients are present on the DSL.

### International Information:

Components listed below are present on the following International Inventory list:

<u>Ingredients</u>	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	New Zealand IOC
Propylene glycol n-butyl ether	5131-66-8	225-878-4	Listed	Listed	Listed	Listed	Listed	Listed
Propanol, 2-butoxy-	15821-83-7	Not available.	N/Av	Present	(2)-2424	N/Av	Present	N/Av

## SECTION 16. OTHER INFORMATION

### Legend

- : ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
- CNS: Central Nervous System
- COC: Cleveland Open Cup
- CSA: Canadian Standards Association
- DOT: Department of Transportation
- EPA: Environmental Protection Agency
- IARC: International Agency for Research on Cancer
- LC: Lethal Concentration
- LD: Lethal Dose
- N/Ap: Not Applicable
- N/Av: Not Available
- NIOSH: National Institute of Occupational Safety and Health

Comsol PNB

SDS Revision Date (mm/dd/yyyy): 10/15/2024

Page 10 of 10

## SAFETY DATA SHEET

NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PEL: Permissible exposure limit  
SARA: Superfund Amendments and Reauthorization Act  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Values  
TWA: Time Weighted Average

**References** : 1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices 2. ECHA - European Chemical Agency 3. Canadian Centre for Occupational Health and Safety, CCOHS Web databases 4. Safety Data Sheets from manufacturer 5. US EPA Title III List of Lists 6. California Proposition 65 List 7. OECD - The Global Portal to Information on Chemical Substances - eChemPortal

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: 2

**Revision Information**

: 5. FIRE-FIGHTING MEASURES 9. PHYSICAL AND CHEMICAL PROPERTIES 15. REGULATORY INFORMATION

**Other special considerations for handling**

: Provide adequate information, instruction and training for operators.

<p><b><u>Prepared for:</u></b> Comet Chemical Company Ltd. 3463 Thomas Street Innisfill, ON L9S 3W4 Information (M-F 8:00-5:00): 705-436-5580 www.cometchemical.com</p>	 <b>COMET CHEMICAL COMPANY LTD.</b>
<p><b><u>Prepared by:</u></b> ICC The Compliance Center Inc. Telephone: (888) 442-9628 (U.S.): (888) 977-4834 (Canada) <a href="http://www.thecompliancecenter.com">http://www.thecompliancecenter.com</a></p>	 <b>ComplianceCenter</b>

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