



Material Safety Data Sheet

1. Chemical Product and Company Identification

Product name PROPANE WITH ODORANT
MSDS# 0000001782
Historic MSDS#: 0000001782 (NAP)
Product Use Industrial applications

Supplier NGL Supply Co. Ltd.
550, 435 – 4 Avenue SW
Calgary, Alberta T2P 3A8
CANADA

EMERGENCY HEALTH INFORMATION: 1 (800) 447-8735
EMERGENCY SPILL INFORMATION: 1(800) 424-9300 CHEMTREC (USA)
1(800) 265-0212 – LPG Emergency Response (Canada)
1 (613) 996-6666 CANUTEC (Canada)

OTHER PRODUCT INFORMATION: 1 (866) 4 BP - MSDS
(866-427-6737 Toll Free - North America)
Email: bpcares@bp.com
www.ngl.com

2. Composition / information on ingredients

Ingredient Name	CAS #	% By Weight	Exposure Limits	LC50/LD50
PROPANE	74-98-6	100	Alberta OH&S (Canada, 2004) OEL: 1000 ppm 8 hour(s) STEL: 1500 ppm 15 minute(s) ACGIH TLV (United States, 2003) TWA: 2500 ppm 8 hour(s) TWA: 2500 ppm 8 hour(s) Form: All forms	Not available
ETHANETHIOL	75-08-1	<0.1	Alberta OH&S (Canada, 2004) OEL: 0.5 ppm 8 hour(s) British Columbia OH&S (Canada, 1998) EL: 0.5 ppm ACGIH TLV (United States, 2/2003) TWA: 1.3 mg/m ³ 8 hour(s) Form: All forms TWA: 0.5 ppm 8 hour(s) Form: All forms	Not available

3. Hazards identification

Physical state Gas. (Liquefied gas)
Color Colorless.
Emergency Overview DANGER!
EXTREMELY FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE. AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUFFOCATION FROM LACK OF OXYGEN.
Liquid can cause burns similar to frostbite. Keep away from heat, sparks and flame. Avoid contact with eyes, skin and clothing. Do not breathe vapor or mist. Keep container closed. Use only with adequate ventilation.
Routes of Entry Skin contact. Eye contact. Inhalation.

POTENTIAL HEALTH EFFECTS

Eyes Liquid can cause burns similar to frostbite. Will cause serious damage to the eyes.
Skin Liquid can cause burns similar to frostbite.
Inhalation At very high concentrations can displace the normal air and cause suffocation from lack of oxygen.
Ingestion Not applicable. Liquefied gas.

See Toxicological Information (section 11)

4. First-aid measures

Eye Contact	Contact with liquid: Immediately flush with plenty of tepid water (105-115 F; 41-46 C). DO NOT USE HOT WATER. Get immediate medical attention.
Skin Contact	Contact with liquid: Immediately flush with plenty of tepid water (105-115 F; 41-46 C). DO NOT USE HOT WATER. Get immediate medical attention. Remove contaminated clothing and shoes.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
Ingestion	Not applicable liquefied gas.

5. Fire-fighting measures

Flammability of the Product	Extremely flammable
Auto ignition temperature	449.9 °C
Flash point	-104.4 °C (CLOSED CUP)
Explosion Limits	LOWER: 2.1 % UPPER: 9.5 %
Products of Combustion	carbon oxides (CO, CO ₂); smokes as products of incomplete combustion.
Unusual fire/explosion hazards	This material is not explosive as defined by established regulatory criteria. Vapors may form explosive mixtures with air. Vapor may cause flash fire. Vapors may accumulate in low or confined areas, travel considerable distance to source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. Container explosion may occur under fire conditions or when heated.
Fire Fighting Media and Instructions	In case of fire, use water fog, foam, dry chemicals, or carbon dioxide. DO NOT FIGHT FIRE WHEN IT REACHES MATERIAL. Withdraw from fire and let it burn. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. First move people out of line-of-sight of the scene and away from windows. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.
Protective Clothing (Fire)	Fire fighters should wear positive pressure self-contained breathing apparatus (SCBA) and full turnout gear.

6. Accidental release measures

Personal Precautions

Eliminate all ignition sources. Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).

Personal Protection in Case of a Large Spill

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self-contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling	Keep away from heat, sparks and flame. Keep container closed. Use only with adequate ventilation. Do not breathe vapor or mist. Take precautionary measures against static discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Avoid contact with eyes, skin and clothing.
Storage	Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

8. Exposure controls/personal protection

Occupational Exposure Limits

Ingredient Name	Occupational Exposure Limits
PROPANE	Alberta OH&S (Canada, 2004) OEL: 1000 ppm 8 hour(s) STEL: 1500 ppm 15 minute(s) ACGIH TLV (United States, 2003) TWA: 2500 ppm 8 hour(s) TWA: 2500 ppm 8 hour(s) Form: All forms
ETHANETHIOL	Alberta OH&S (Canada, 2004) OEL: 0.5 ppm 8 hour(s) British Columbia OH&S (Canada, 1998) EL: 0.5 ppm

ACGIH TLV (United States, 2/2003)TWA: 1.3 mg/m³ 8 hour(s)

Form: All forms

TWA: 0.5 ppm 8 hour(s)

Form: All forms

Control Measures	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash station and safety shower is proximal to the workstation location.
Hygiene measures	Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Personal Protection	
Eyes	Avoid contact with eyes. Chemical splash goggles.
Skin and Body	Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.
Respiratory	Use only with adequate ventilation. Avoid breathing vapor or mist. If operating conditions cause high vapor concentrations or TLV is exceeded, use supplied-air respirator.
Hands	Insulated gloves suitable for low temperatures
Consult local authorities for acceptable exposure limits.	

9. Physical and chemical properties

Physical state	Gas (Liquefied gas)
pH	Not available.
Odor	ethyl mercaptan (skunky odor)
Odor Threshold	Not available
Color	Colorless.
Boiling Point / range	-42 °C
Melting Point / range	-186 °C
Critical Temperature	96.7°C
Specific Gravity	0.59
Vapor Pressure	767.952 kPa (5775 mm Hg)
Vapor Density (Air = 1)	1.6
Evaporation Rate	Not available
Solubility	Insoluble in cold water
LogKow	Not applicable.

10. Stability and reactivity

Stability and Reactivity	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	Keep away from heat, sparks and flame.
Incompatibility with Various Substances	Vapors may form explosive mixtures with air. Avoid chlorine, fluorine, and other strong oxidizers, nitric and sulfuric acids.
Hazardous Decomposition Products	carbon oxides (CO, CO ₂); smokes as products of incomplete combustion.
Hazardous Polymerization	Will not occur.

11. Toxicological information**Chronic toxicity**

Carcinogenic Effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or International Agency for Research on Cancer (IARC).
Mutagenic Effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
Reproductive Effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.
Teratogenic effects	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as teratogenic or embryotoxic.
Other information	At very high concentrations, can displace the normal air and cause suffocation from lack of oxygen.

12. Ecological information

Ecotoxicity	No testing has been performed by the manufacturer.
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Mobility





This product is likely to volatilize rapidly into the air because of its high vapor pressure. This product is not likely to move rapidly with surface or groundwater flows because of its low water solubility.

13. Disposal considerations**Waste Information**

Dispose of in accordance with all applicable local and national regulations. Empty containers may contain harmful, flammable/combustible or explosive residue or vapors. Do not cut, grind, drill, weld, reuse or dispose of containers unless adequate precautions are taken against these hazards.

Consult your local or regional authorities.

14. Transport information**International transport regulations**

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
DOT Classification	UN1978	Propane	2.1	Not applicable (Gas)		
TDG Classification	UN1978	Propane	2.1	Not applicable (Gas)		
IMDG Classification	UN1978	Propane	2.1	Not applicable (Gas)		
IATA Classification	UN1978	Propane	2.1	Not applicable (Gas)		

15. Regulatory information**U.S. Federal Regulations**

US INVENTORY (TSCA): Listed on inventory.

WHMIS (Canada)

Class A: Compressed gas.

Class B-1: Flammable gas.

If listed, this product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations for those regulated products.

Inventories

AUSTRALIAN INVENTORY (AICS): Listed on inventory.

CANADA INVENTORY (DSL): Listed on inventory.

CHINA INVENTORY (IECS): Listed on inventory.

EC INVENTORY (EINECS): Listed on inventory.

JAPAN INVENTORY (ENCS): Listed on inventory.

KOREA INVENTORY (ECL): Listed on inventory.

PHILIPPINE INVENTORY (PICCS): Listed on inventory.

16. Other information**Label Requirements**

DANGER!

EXTREMELY FLAMMABLE, VAPOR MAY CAUSE FLASH FIRE.

AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUFFOCATION FROM LACK OF OXYGEN.

Liquid can cause burns similar to frostbite.

HISTORY**Notice to Reader**

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from Abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.