



1. Chemical product and company identification

Product name	PROPANE WITH ODORANT
MSDS#	0000001782
Code	0000001782 (NAP)
Product use	Industrial applications
Supplier	BP Canada Energy Company 240 - 4 Avenue S.W. P.O. Box 200, Station M Calgary, Alberta T2P 2H8 CANADA
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735 Outside the US: +1 703-527-3887 (CHEMTREC)
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

2. Composition/information on ingredients

Ingredient name	CAS #	% by weight	Exposure limits
Propane	74-98-6	100	ACGIH TLV (United States, 2003). TWA: 2500 ppm 8 hour(s). TWA: 2500 ppm 8 hour(s). Form: All forms OSHA PEL (United States, 6/1993). TWA: 1800 mg/m ³ 8 hour(s). Form: All forms TWA: 1000 ppm 8 hour(s). Form: All forms OSHA PEL 1989 (United States, 3/1989). TWA: 100 mg/m ³ 8 hour(s). Form: All forms 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 OSHA PEL (United States, 6/1993). CEIL: 25 mg/m ³ Form: All forms CEIL: 10 ppm Form: All forms OSHA PEL 1989 (United States, 3/1989). TWA: 1 mg/m ³ 8 hour(s). Form: All forms TWA: 0.5 ppm 8 hour(s). Form: All forms
Ethanethiol	75-08-1	<0.1	

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.

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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, CO₂); smokes as products of incomplete combustion.

Unusual fire/explosion hazards

This material is not explosive as defined by established regulatory criteria.

Fire fighting media and instructions

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.

In case of fire, use water spray (fog), foam, dry chemical, or CO₂. 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, autoignition 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.

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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 skin and eyes.

Storage

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready to use. Avoid all possible sources of ignition (spark or flame).

8. Exposure controls/personal protection

Occupational exposure limits

Ingredient name

Occupational exposure limits

Propane

ACGIH TLV (United States, 2003).

TWA: 2500 ppm 8 hour(s).

TWA: 2500 ppm 8 hour(s). Form: All forms

OSHA PEL (United States, 6/1993).

TWA: 1800 mg/m³ 8 hour(s). Form: All forms

TWA: 1000 ppm 8 hour(s). Form: All forms

OSHA PEL 1989 (United States, 3/1989).

TWA: 100 mg/m³ 8 hour(s). Form: All forms

Ethanethiol

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

OSHA PEL (United States, 6/1993).

CEIL: 25 mg/m³ Form: All forms

CEIL: 10 ppm Form: All forms

OSHA PEL 1989 (United States, 3/1989).

TWA: 1 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 work-station 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. Do not breathe 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)
Odor	mercaptan, skunky odor.
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
Solubility	Insoluble in cold water.

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 the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

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.

12. Ecological information

Ecotoxicity	No testing has been performed by the manufacturer.
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.

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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).		Not available.
TDG Classification	UN1978	Propane	2.1	Not applicable (gas).		Not available.
IMDG Classification	UN1978	Propane	2.1	Not applicable (gas).		Not available.
IATA Classification	UN1978	Propane	2.1	Not applicable (gas).		Not available.

15. Regulatory information

U.S. Federal regulations

US INVENTORY (TSCA): In compliance.

This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA 313

Form R - Reporting requirements

This product does not contain any hazardous ingredients at or above regulated thresholds.

Supplier notification

This product does not contain any hazardous ingredients at or above regulated thresholds.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4):: This material is not regulated under CERCLA Sections 103 and 107.

State regulations

Massachusetts RTK:Propane
New Jersey:Propane
Pennsylvania RTK:Propane (generic environmental hazard)
California prop. 65: No products were found.

Inventories

AUSTRALIAN INVENTORY (AICS): In compliance.

CANADA INVENTORY (DSL): In compliance.

CHINA INVENTORY (IECS): In compliance.

EC INVENTORY (EINECS/ELINCS): In compliance.

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JAPAN INVENTORY (ENCS): In compliance.

KOREA INVENTORY (ECL): In compliance.

PHILIPPINE INVENTORY (PICCS): In compliance.

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.

HMIS® Rating :

Health 1 *

Flammability 4

Physical Hazard 0

Personal protection X

National Fire Protection Association (U.S.A.)



History

Date of issue

05/12/2004.

Date of previous issue

No Previous Validation.

Prepared by

Product Stewardship

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.

This Material Safety Data Sheet conforms to the requirements of ANSI Z400.1.