

# Material Safety Data Sheet



## 1. Chemical Product and Company Identification

<b>Product name</b>	PROPANE
<b>MSDS#</b>	0000000791
<b>Historic MSDS#:</b>	06535, 12179, 12180
<b>Product Use</b>	Industrial applications
<b>Manufacturer</b>	BP Canada Energy Company 240 - 4 Avenue S.W. P.O. Box 200, Station M Calgary, Alberta T2P 2H8 CANADA
<b>Supplier</b>	BP Canada Energy Company 240 - 4 Avenue S.W. P.O. Box 200, Station M Calgary, Alberta T2P 2H8 CANADA
<b>EMERGENCY HEALTH INFORMATION:</b>	1 (800) 447-8735
<b>EMERGENCY SPILL INFORMATION:</b>	1 (613) 996-6666 CANUTEC (Canada)
<b>OTHER PRODUCT INFORMATION</b>	1 (866) 4 BP - MSDS (866-427-6737 Toll Free - North America) email: bpcares@bp.com

## 2. Composition / information on ingredients

<b>Ingredient Name</b>	<b>CAS #</b>	<b>% by Weight</b>	<b>Exposure Limits</b>	<b>LC50/LD50</b>
PROPANE	74-98-6	100	Simple asphyxiant. <b>ACGIH TLV (United States, 2000).</b> TWA: 2500 ppm Alberta OH&S (2001) OEL: 1000 ppm STEL: 1500 ppm BC OH&S (1998) Simple asphyxiant. Saskatchewan OH&S (1996) Simple asphyxiant Ontario OH&S (2000) TWAEV: 2500 ppm	Not available.

## 3. Hazards identification

<b>Physical state</b>	Gas. (Liquefied gas)
<b>Color</b>	Colorless.
<b>Emergency Overview</b>	<b>DANGER!</b> <b>EXTREMELY FLAMMABLE. VAPOR MAY CAUSE FLASH FIRE.</b> <b>AT VERY HIGH CONCENTRATIONS, CAN DISPLACE THE NORMAL AIR AND CAUSE SUFFOCATION FROM LACK OF OXYGEN.</b> Liquid can cause burns similar to frostbite. <b>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.</b>
<b>Routes of Entry</b>	Skin contact. Eye contact. Inhalation.

## POTENTIAL HEALTH EFFECTS

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

See Toxicological Information (section 11)

---

## 4. First-aid measures

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	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.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
<b>Ingestion</b>	Not applicable. Liquefied gas.

---

## 5. Fire-fighting measures

<b>Flammability of the Product</b>	Extremely flammable.
<b>Autoignition temperature</b>	49.9 °C
<b>Flash point</b>	04.4 °C (CLOSED CUP)
<b>Explosion Limits</b>	LOWER: 2.1 % UPPER: 9.5 %
<b>Products of Combustion</b>	carbon oxides (CO, CO <sub>2</sub> ); smokes as products of incomplete combustion.
<b>Unusual fire/explosion hazards</b>	Extremely flammable in presence of open flames, sparks and static discharge, of heat.  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.
<b>Fire Fighting Media and Instructions</b>	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam.  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. Apply water from a safe distance to cool container and protect surrounding area.
<b>Protective Clothing (Fire)</b>	Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus. Firefighters' protective clothing will provide limited protection.

---

## 6. Accidental release measures

<b>Personal Precautions</b>	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).
<b>Personal Protection in Case of a Large Spill</b>	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

<b>Handling</b>	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. Wash thoroughly after handling.
<b>Storage</b>	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	Simple asphyxiant. <b>ACGIH TLV (United States, 2000).</b> TWA: 2500 ppm Alberta OH&S (2001) OEL: 1000 ppm STEL: 1500 ppm BC OH&S (1998) Simple asphyxiant. Saskatchewan OH&S (1996) Simple asphyxiant Ontario OH&S (2000) TWA/EV: 2500 ppm

<b>Control Measures</b>	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.
<b>Hygiene measures</b>	Wash hands, forearms, and face thoroughly after handling compounds and before eating, smoking, using lavatory, and at the end of day.
<b>Personal Protection</b>	
<b>Eyes</b>	Avoid contact with eyes. Chemical splash goggles.
<b>Skin and Body</b>	Avoid contact with skin and clothing. Wear clothing and footwear that cannot be penetrated by chemicals or oil.
<b>Respiratory</b>	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.
<b>Hands</b>	Insulated gloves suitable for low temperatures

Consult local authorities for acceptable exposure limits.

---

## 9. Physical and chemical properties

<b>Physical state</b>	Gas. (Liquefied gas)
<b>pH</b>	Not available.
<b>Odor</b>	Odorless, unless odorized with ethyl mercaptan (skunky odor).
<b>Odor Threshold</b>	Not available.
<b>Color</b>	Colorless.
<b>Boiling Point / range</b>	-42 °C
<b>Melting Point / range</b>	-186 °C
<b>Critical Temperature</b>	96.7°C
<b>Specific Gravity</b>	0.59
<b>Vapor Pressure</b>	770 kPa at 20°C
<b>Vapor Density (Air = 1)</b>	1.6
<b>Evaporation Rate</b>	Not available.
<b>Solubility</b>	Insoluble in cold water.
<b>LogK<sub>ow</sub></b>	Not applicable.

## 10. Stability and reactivity

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

## 11. Toxicological information

### Chronic toxicity

<b>Carcinogenic Effects</b>	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).
<b>Mutagenic Effects</b>	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a mutagen.
<b>Reproductive Effects</b>	No component of this product at levels greater than 0.1% is classified by established regulatory criteria as a reproductive toxin.
<b>Teratogenic effects</b>	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

**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 of: <0.1%





## 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
<b>DOT Classification</b>	UN1978	Propane	2.1	Not applicable		-
<b>TDG Classification</b>	UN1978	Propane	2.1	Not applicable		-
<b>IMDG Classification</b>	UN1978	Propane	2.1	Not applicable		-
<b>IATA Classification</b>	UN1978	Propane	2.1	Not applicable		-

---

## 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

**Date of issue** 08/28/2002.

**Date of Previous Issue** 08/08/2002.

**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.