

# 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

## 1.1 IDENTIFICATION

**Product Name** PROPANE  
**Chemical Name** Propane  
**Chemical Family** Alkanes (paraffin, saturated hydrocarbon)  
**Formula** C<sub>3</sub>H<sub>8</sub>  
**Synonym** Dimethylmethane

## 1.2 COMPANY IDENTIFICATION

**Supplier:**  
Gestion Énergie Québec inc.  
425, 2<sup>nd</sup> Avenue  
Sainte-Marie, Quebec G6E 3H2

**Manufacturer:**  
Various Canadian sources of supply

**Prepared By:** P. Breton  
**Print Date:** 2015.03.31

## 1.3 EMERGENCY TELEPHONE NUMBER

**24 hours :**  
**Pintendre Terminal (418) 387-7699**  
**Valleyfield Terminal (450) 373-4333**  
For any questions regarding this MSDS or for any additional information on the product, please call: (418) 387-3892

## 2. COMPOSITION INFORMATION

Component	CAS #	%W/W	Hazard
Propane	74-98-6	$\geq 95 \leq 100\%$	compressed gas; flammable
Propylene	115-07-1	$\leq 5\%$	compressed gas; flammable

## 3. HAZARDS IDENTIFICATION

### 3.1 3.1 EMERGENCY OVERVIEW

**Appearance** Transparent colorless

**Physical State** Gas

**Odour** Rotten cabbage

**Hazards of product** DANGER! FLAMMABLE LIQUID AND GAS UNDER PRESSURE.  
MAY FORM EXPLOSIVE MIXTURES WITH AIR.  
MAY CAUSE FROSTBITE.  
MAY CAUSE DIZZINESS AND DROWSINESS.  
CAN CAUSE SUFFOCATION.

### 3.2 POTENTIAL HEALTH EFFECTS

#### Potential Effects of a Single Acute Exposure

**Inhalation** Asphyxiant. Moderate concentrations of vapour may cause headache, drowsiness, dizziness, difficulty in concentration, vomiting, unconsciousness and death from lack of oxygen.

**Eye Contact** Liquid or cold gas may cause frostbite.

**Skin Contact** Liquid or cold gas may cause frostbite.

**Skin Absorption** No evidence of harmful effects from available information.

**Swallowing** An unlikely route of exposure. Frostbite of the lips and mouth may result from contact with the liquid.

### **Chronic, Prolonged or Repeated Exposure**

**Potential Effects of Repeated Exposure** No adverse effects anticipated from available information.

**Other Potential Effects of Exposure** This material in gaseous form can exclude oxygen, resulting in unconsciousness and death.

### **Medical Conditions Aggravated by Exposure**

A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that exposure is unlikely to aggravate existing medical conditions.

## **3.3 POTENTIAL ENVIRONMENTAL EFFECTS**

See Section 12 for Ecological Information.

# **4. FIRST AID PROCEDURES**

## **4.1 INHALATION**

Remove to fresh air. Give artificial respiration if not breathing. If breathing is difficult, oxygen may be given by qualified personnel. Obtain medical attention.

## **4.2 EYE CONTACT**

Immediately flush eyes with water and continue washing for at least 15 minutes. DO NOT remove contact lenses, if worn. Obtain medical attention without delay, preferably from an ophthalmologist.

## **4.3 SKIN CONTACT**

Immediately warm frostbite area with warm water (not to exceed 40.5°C, 105°F). In case of massive exposure, remove clothing while showering with warm water. Obtain medical attention.

## **4.4 SWALLOWING**

This material is a gas at normal temperature and pressure.

## **4.5 NOTES TO PHYSICIAN**

There is no specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.  
Severe exposure to gas accompanied by hypoxia may cause cardiac sensitization.  
Avoid the use of epinephrine.

## **5. FIRE FIGHTING MEASURES**

### **5.1 FLAMMABLE PROPERTIES**

**Flash Point - Closed Cup:** *Closed Cup* -103.9 °C -155 °F

**Flash Point - Open Cup:** *Not currently available.*

**Auto ignition Temperature:** *Not currently available.*

#### **Flammable Limits in Air:**

Lower	2.1 %(V)
Upper	9.5 %(V)

### **5.2 EXTINGUISHING MEDIA**

Flammable gas: Do not extinguish due to possible hazard of explosive re-ignition. Use water spray to cool containers and structures and to protect personnel attempting to shut-off flow. Attempt shut-off only if hazard is not too great. Extinguish surrounding and/or residual fires with appropriate fire fighting foam, carbon dioxide or dry chemical media.

### **5.3 EXTINGUISHING MEDIA TO AVOID**

No information available.

### **5.4 SPECIAL FIRE FIGHTING PROCEDURES**

Use water spray to cool fire-exposed containers and structures. Use water spray to disperse vapours; re-ignition is possible. ISOLATE FOR 800 METERS IN ALL DIRECTIONS IF TANK CAR OR TRUCK IS INVOLVED IN FIRE. FOR EMERGENCY ASSISTANCE, CALL HELP (514) 640-6400.

### **5.5 SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS**

Use self-contained breathing apparatus and protective clothing.

### **5.6 UNUSUAL FIRE AND EXPLOSION HAZARDS**

Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from product handling point. Vapours from this material may settle in low or confined areas or travel a long distance to an ignition source and flash back explosively.

## 5.7 HAZARDOUS COMBUSTION PRODUCTS

Burning can produce the following products: Carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled. Carbon dioxide in sufficient concentrations can act as an asphyxiant.

## 6. ACCIDENTAL RELEASE MEASURES

### Steps to be taken if Material is Released or Spilled:

DANGER! Forms explosive mixture with air. Immediately evacuate all personnel from danger area; isolate area and deny entry. Shut off ignition sources, no flares, smoking, or flames in the hazard area. Use spark-proof tools and explosion-proof equipment. Stop leak if you can do so without risk. Use water spray to reduce vapours; isolate area until gas has dispersed. Stay upwind; keep out of low areas. Ventilate area of leak or move container to well-ventilated area. Before entering area, especially confined areas, check atmosphere with appropriate device. Use self-contained breathing apparatus and firefighting clothing. Isolate for 800 meters (1/2 mile) in all directions if tank car or truck is involved in fire. See Sections 5 (Fire Fighting Measures) and 8.2 (Personal Protection). ISOLATE FOR 800 METERS IN ALL DIRECTIONS IF TANK CAR OR TRUCK IS INVOLVED IN FIRE. FOR EMERGENCY ASSISTANCE, CALL HELP (514) 640-6400.

**Personal Precautions:** Use self-contained breathing apparatus and firefighting clothing. See Section 8.2 - Personal Protection.

## 7. HANDLING AND STORAGE

### 7.1 HANDLING

#### General Handling

Keep away from heat, sparks and flame.

Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharges, or other ignition sources at locations distant from product handling point.

Store and use with adequate ventilation.

Container temperature should not exceed 54.4°C (130°F).

Do not get liquid or cold gas in eyes, on skin, on clothing.

Close valve after each use and when empty.

Use with adequate ventilation.

Do not enter storage area unless adequately ventilated.

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#### Ventilation

This product must be confined within sealed equipment. If a leak develops in the system, ventilation may not be adequate to control hazards. Self-contained breathing apparatus may be necessary for personnel and explosion-proof equipment may be needed to prevent ignition.

### **Other Precautions**

High concentrations of propane gas can kill by asphyxiation. The warning properties of an atmospheric deficiency in oxygen are inadequate, and the average person fails to recognize the danger until he is too weak to save himself. Vapours are heavier than air and could collect in low areas. - Radon-222 is a naturally occurring radioisotope which is present in trace quantities in some natural gas feedstocks. The concentration of this radioisotope and its radioactive decay products in the delivered product will depend on the source of the natural gas and the time that this gas has spent in storage and delivery. If a gamma radiation field is detected around equipment processing this material, employee exposure potential should be minimized by restricting access to affected areas. - Any equipment using or processing radon-222 contaminated feedstock (ethane/ propane) should be presumed to be internally contaminated with the longer lived radioactive decay products of radon-222. When such equipment must be opened for cleaning or maintenance the gas flow should be shut off for at least four hours before opening or entering the equipment. During this four hour period any externally detectable gamma radiation field will decrease to background levels. However, if gamma rays were detected during normal operation, there may also be longer lived alpha and beta radiation emitting radioisotopes present inside the vessel. These will not be detectable by any but the most sensitive measurement techniques. Maintenance personnel working on this equipment should take appropriate steps to prevent skin contamination or inhalation of any residues from inside this equipment. Direct measurements of products derive from these materials have shown detectable contamination only at very low levels. Most samples checked had no detectable contamination. Products derived from these feedstocks are judged not to be a health risk due to any potential residual radioisotopes. EMERGENCY ACTION: Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection. Isolate for 800 meters (½ mile) in all directions if tank car or truck is involved in fire.

## **7.2 STORAGE**

No information available.

# **8. EXPOSURE CONTROLS AND PERSONAL PROTECTION**

## **8.1 EXPOSURE LIMITS**

<b>Component</b>	<b>Exposure Limits</b>	<b>Notations</b>
Propane	1000 ppm TWA8 ACGIH	

Propylene

Simple asphyxiant ACGIH

A4

*Consult local authorities for recommended exposure limits  
For the Notations column, refer to the ACGIH booklet explanations.*

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## 8.2 PERSONAL PROTECTION

**Respiratory Protection:** Air purifying, supplied air or self-contained breathing apparatus recommended if personnel exposure exceeds exposure limits.

**Ventilation:** This product must be confined within sealed equipment. If a leak develops in the system, ventilation may not be adequate to control hazards. Self-contained breathing apparatus may be necessary for personnel and explosion-proof equipment may be needed to prevent ignition.

**Eye Protection:** Monogoggles.

**Protective Gloves:** Neoprene  
Nitrile (NBR)

**Other Protective Equipment:** When handling material in liquid form, use full protective clothing to prevent frostbite, including long-sleeved gloves, boots or shoe covers, and coveralls or lab aprons. Eye bath and safety shower. Insulated gloves if contact with liquid cooled equipment is anticipated.

## 8.3 ENGINEERING CONTROLS

No information available.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State:** Gas

**Appearance:** Transparent colorless

**pH:** *Not currently available.*

**Solubility in Water (by weight):** < 0.5 %

**Odour:** Rotten cabbage

**Flash Point - Closed Cup:** *Closed Cup* -103.9 °C -155 °F

**Percent Volatiles:** 100 Wt%

**Molecular Weight:** 44 g/mol (Approx.)

**Boiling Point (760 mmHg):** -42 °C -44 °F

**Freezing Point:** -188 °C -306 °F

**Specific Gravity (H<sub>2</sub>O = 1):** 0.501 at saturation pressure

**Vapour Pressure at 20°C:** *Not determined.* High - gas

**Vapour Density (air = 1):** 1.5

**Evaporation Rate (Butyl Acetate = 1):** *Not determined.* High - gas

**Melting Point:** *Not applicable.*

## 10. STABILITY AND REACTIVITY

**10.1 STABILITY/INSTABILITY** Stable

**Conditions to Avoid:** Ignition sources, such as heat, sparks and flames.

**Incompatible Materials:** Strong oxidizing agents. Avoid halogens (chlorine) in the presence of sunlight or ultraviolet light. Ozone. Liquid oxygen. Chromic acid.

**10.2 HAZARDOUS POLYMERIZATION** Will Not Occur.

**10.3 INHIBITORS/STABILIZERS** Not applicable.

## 11. TOXICOLOGICAL INFORMATION

None known from currently available information.



## **12. ECOLOGICAL INFORMATION**

### **12.1 ENVIRONMENTAL FATE**

Information may be available, call Gestion Énergie.

### **12.2 ECOTOXICITY**

Information may be available, call Gestion Énergie.

### **12.3 FURTHER INFORMATION**

None.

## **13. DISPOSAL CONSIDERATIONS**

### **13.1 WASTE DISPOSAL METHOD**

Incinerate in a furnace where permitted under appropriate federal, provincial, and local regulations. Dispose in accordance with all applicable federal, provincial, and local environmental regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

### **13.2 DISPOSAL CONSIDERATIONS**

See Section 13.1

*Disposal methods identified are for the product as sold. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permissible under applicable rules, regulations and/or laws governing your location.*

## **14. TRANSPORT INFORMATION**

### **14.1 TDG - CANADA**

#### **SMALL CONTAINER**

**Proper Shipping Name** : LIQUEFIED PETROLEUM GAS

**Technical Name :** PROPANE  
**ID Number :** UN1075  
**Hazard Class :** 2.1

**LARGE CONTAINER**

**Proper Shipping Name :** LIQUEFIED PETROLEUM GAS  
**Technical Name :** PROPANE  
**ID Number :** UN1075  
**Hazard Class :** 2.1

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*

**15. REGULATORY INFORMATION**

**15.1 FEDERAL/PROVINCIAL**

**WHMIS CLASSIFICATION**

**COMPRESSED GAS**

**B1**

**Flammable Gases**

**ACCELERATED REDUCTION/ELIMINATION OF TOXICS**

None of the components of this product are listed on the Accelerated Reduction/Elimination of Toxics (ARET) lists A-1, B-2, or B-3, or are present in this product at a concentration greater than 0.1%.

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**CEPA - NATIONAL POLLUTANTS RELEASE INVENTORY**

At least one component of this product is on the National Pollutant Release Inventory (NPRI) Part 1:

<b>Component</b>	<b>CAS #</b>	<b>Amount</b>
Propylene	115-07-1	≤ 5.0000%

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#### **CEPA - TOXIC SUBSTANCES**

None of the components of this product are on the CEPA lists of toxic substances (Schedule 1, Schedule 3-1, or Schedule 3-2).

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#### **CPR COMPLIANCE**

This product has been classified with the hazard criteria of the CPR, and the MSDS contains all the information required by CPR.

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#### **TOXIC SUBSTANCES CONTROL ACT (TSCA)**

All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

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#### **EUROPEAN INVENTORY OF EXISTING COMMERCIAL CHEMICAL SUBSTANCES (EINECS)**

The components of this product are on the EINECS inventory.

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#### **CEPA - DOMESTIC SUBSTANCES LIST (DSL)**

The components of this product are on the DSL or are exempt from reporting under the New Substances Notification Regulations.

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**VOC:** 500.11 g/l Vapor pressure high - Gas

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*This section provides selected regulatory information on this product including its components. This is not intended to include all regulations. It is the responsibility of the user to know and comply with all applicable rules, regulations and laws relating to the product being used.*

## **16. OTHER INFORMATION**

### **16.1NA**

Additional information on this product may be obtained by calling our Sales or Customer Service representative.

## 16.2 SPECIFIC HAZARD RATING SYSTEM

Additional information on this product may be obtained by calling our Sales or Customer Service representative.

## 16.3 RECOMMENDED USES AND RESTRICTIONS

Process fuel

FOR INDUSTRY USE ONLY

## 16.4 REVISION

Version: 2

Revision: 2012.04.29

Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

## 16.5 LEGEND

A	Asphyxiant
Bacterial/NA	Non Acclimated Bacteria
F	Fire
H	Health
HMIS	Hazardous Materials Information System
N/A	Not available
NFPA	National Fire Protection Association
O	Oxidizer
P	Peroxide Former
R	Reactivity
TS	Trade Secret
VOL/VOL	Volume/Volume
W	Water Reactive
W/W	Weight/Weight