

# PROPANE "HD5"

## SAFETY DATA SHEET

Date of Issue: March 09, 2016

### SECTION 1 - IDENTIFICATION

Product name: Propane

Recommend use: Heating fuel, motive fuel, industrial applications

Supplier: EDPRO Energy Group Inc.  
5 Cuddy Blvd.  
London, ON N5V 3Y3 Canada  
(519) 690-0000

Emergency Tel# CANUTEC (613) 966-6666

### SECTION 2 - HAZARDS IDENTIFICATION

GHS Classification: Flammable Gas, Category 1  
Gases under pressure - Liquefied compressed gas  
Simple Asphyxiant

Label elements: Hazard Pictograms



Signal word: Danger

Hazard Statements: Extremely flammable gas  
Contains gas under pressure; may explode if heated  
May displace oxygen and cause rapid suffocation

Precautionary Statements: Keep away from heat/sparks/open flames/hot surfaces. - No Smoking.  
Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
Eliminate all ignition sources if safe to do so.  
Store in a well ventilated space.

Other hazards: Vapours are heavier than air, Vapours may travel across ground and reach remote ignition sources.

### SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

| Hazardous component (Chemical Name) | CAS No.  | % concentration |
|-------------------------------------|----------|-----------------|
| Propane                             | 74-98-6  | 90%-98%         |
| Ethane                              | 74-84-0  | 1% - 5%         |
| Propene (Propylene)                 | 115-07-1 | 1% - 5%         |
| Butane                              | 106-97-8 | 1% - 2.5%       |
| Isobutane                           | 75-28-5  | 1% - 2.5%       |
| Methane                             | 74-82-8  | <1%             |
| Ethanethoil                         | 75-08-1  | <0.01%          |

## **SECTION 4 – FIRST-AID MEASURES**

|                     |  |
|---------------------|--|
| Eye Contact:        | Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do so. If irritation persists, seek immediate medical attention.  |
| Skin Contact:       | If irritation occurs, flush with plenty of water. Warm frosted area with lukewarm water. Do not rub affected area. Remove non-adhering clothing. If irritation persists, seek immediate medical attention.   |
| Inhalation:         | If respiratory symptoms develop, move away from source of exposure and into fresh air. If breathing is stopped or difficult, oxygen or artificial respiration should be administered by a qualified person. If symptoms persist seek medical attention.  |
| Ingestion:          | Not a normal mode of exposure.   |
| Important symptoms: | Contact with liquid may cause irritation and/or frostbite. Symptoms include discoloured skin and pain with localized redness, swelling and itching.<br><br>In vapour form acts as a simple asphyxiant and can cause anesthetic effects at high concentration. Symptoms of overexposure include shortness of breath, drowsiness, headaches, disorientation, and nausea. |

## **SECTION 5 – FIRE-FIGHTING MEASURES**

|                               |  |
|-------------------------------|--|
| Suitable extinguishing media: | Shut off supply, if possible. Move containers from area, if can be done without risk.<br>Water spray, foam, powder, carbon dioxide.  |
| Unsuitable media:             | None known   |
| Specific hazards:             | Sustained fire impingement on a container may result in a Boiling Liquid Expanding Vapour explosion. Prevented by cooling container with high volume of water.<br>Extremely flammable gas.<br>Products of combustion may include oxides of carbon and oxides of Sulphur. |
| Protection of firefighters:   | Do not extinguish unless leak can be stopped.<br>Contact with liquid may cause frostbite on exposed skin.<br>Wear full fire-fighting turn-out gear and respiratory protection.   |

## **SECTION 6 – ACCIDENTIAL RELEASE MEASURES**

|                          |   |
|--------------------------|---|
| Personal protection:     | Evacuate all non-essential personnel.<br>Approach from upwind.<br>Eliminate every possible source of ignition. Use special care to avoid static electric discharges.<br>Pay attention to low lying areas where vapour may accumulate.<br>Test atmosphere for flammable gas concentration before allowing reentry. |
| Containment and cleanup: | Stop leak if possible without risk.<br>Disperse vapour with water spray.<br>Eliminate all source of ignition, provide ventilation and allow to evaporate.   |

## SECTION 7 – HANDLING AND STORAGE

- Precautions for safe handling: Keep away from heat, sparks open flame and hot surfaces – No smoking. Avoid contact with skin and eyes. Pressurized container; do not puncture or burn, even after use.
- Conditions for safe storage: Store in a well ventilated space away from a source of ignition. Store away from incompatible materials including oxygen. Do not store under or adjacent emergency exit route or stairway.

## SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

- Control parameters: Propane [CAS No. 74-98-6]  
ACGIH: Asphyxia  
OSHA: 1000 ppm (TWA), 1800 mg/m<sup>3</sup> (TWA);
- Ethyl mercaptan [CAS No. 75-08-1]  
ACGIH: 0.5 ppm (TWA); (2003)  
OSHA: 10 ppm (C), 25 mg/m<sup>3</sup> (C); 0.5 ppm (TWA) [Vacated];

*TWA: Time-Weighted Average*

*C: Ceiling*

- Engineering controls: Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapour, gas, etc.) below recommended exposure limits.

Personal Protective Equipment:



- Eye/Face Protection: Wear safety glasses. Wear cold insulating face shield and eye protection. Use equipment for eye protection that meets the standards referenced by CSA Standard CAN/CSAZ94.3-92.
- Hand Protection: Wear protective gloves. Wear cold insulating gloves when exposed to liquid. Consult manufacturer specifications for further information.
- Skin and Body Protection: Wear suitable protective clothing.
- General Information: Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned. Practice good housekeeping. Define procedures for safe handling and maintenance of controls. Educate and train workers in the hazards and control measures relevant to normal activities associated with this product. Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation. Drain down system prior to equipment break-in or maintenance. Retain drain downs in sealed storage pending disposal or for subsequent recycle. Do not ingest. If swallowed then seek immediate medical assistance.

## SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

|                                 |                                     |
|---------------------------------|-------------------------------------|
| Appearance:                     | Liquid under pressure               |
| Colour:                         | Colourless                          |
| Odour:                          | Mercaptan, skunky odor              |
| Odour Threshold:                | Not available                       |
| Physical State:                 | Gas                                 |
| pH:                             | Not available                       |
| Melting Point / Freezing Point: | -186 °C (-303 °F)                   |
| Initial Boiling Point:          | -42.2 °C (-44 °F)                   |
| Boiling Range:                  | -42 °C (-43.6 °F)                   |
| Flash Point:                    | -104.4 °C (-155.92 °F) (Closed Cup) |
| Evaporation Rate:               | Not available                       |
| Flammability (solid, gas):      | Extremely flammable                 |
| Lower Flammability Limit:       | 2.1 %                               |
| Upper Flammability Limit:       | 9.5 %                               |
| Vapor Pressure:                 | 767.952 kPa at 20 °C (68 °F)        |
| Vapor Density:                  | 1.6 (Air = 1)                       |
| Relative Density:               | 0.505 (Water = 1)                   |
| Solubilities:                   | Insoluble in water                  |
| Partition Coefficient:          | nOctanol/Water: 2.3                 |
| Auto-ignition Temperature:      | 449.9 °C (841.8 °F)                 |
| Decomposition Temperature:      | Not available                       |
| Viscosity:                      | Not available                       |
| Percent Volatile, wt. %:        | 100                                 |
| VOC content, wt. %:             | Not available                       |
| Density:                        | 0.5035 g/cm <sup>3</sup>            |

## SECTION 10 – STABILITY AND REACTIVITY

|                                |   |
|--------------------------------|---|
| Reactivity:                    | No, product will not become self-reactive.  |
| Chemical stability:            | Stable under normal conditions of use.  |
| Potential hazardous reactions: | No hazardous reaction is expected when handled and stored according to provisions.  |
| Conditions to avoid:           | Heat, open flames, sparks and flammable atmospheres. In certain circumstances product can ignite due to static electricity. |
| Incompatible materials:        | Strong oxidizing agents.  |
| Hazardous decomposition:       | Hazardous decomposition products are not expected to form during normal storage.  |

## SECTION 11 – TOXICOLOGICAL INFORMATION

### EFFECTS OF ACUTE EXPOSURE

#### Product Toxicity

Oral: Not available  
Dermal: Not available  
Inhalation: Not available

#### Component Toxicity

| Component       | CAS No. | LD50 oral       | LD50 dermal   | LC50                    |
|-----------------|---------|-----------------|---------------|-------------------------|
| Propane         | 74-98-6 | Not available   | Not available | Not available           |
| Ethyl Mercaptan | 75-08-1 | 682 mg.kg (rat) | Not available | 2770 ppm (mouse);<br>4H |

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation.

Target Organs: Skin. Eyes. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

#### Symptoms (including delayed and immediate effects)

Inhalation: May displace oxygen and cause rapid suffocation. Central nervous system depression can occur if product is present in concentrations that will reduce the oxygen content of air below 18 % (vol). Symptoms may include headache, lightheadedness, drowsiness, disorientation, vomiting and seizures.

Unconsciousness and death may occur with severe oxygen deprivation. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Eye: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. The pain after contact with liquid can quickly subside. Permanent eye damage or blindness could result.

Skin: Contact with rapidly expanding or liquefied gas may cause irritation and/or frostbite. Symptoms of frostbite include change in skin color to white or grayish-yellow. The pain after contact with liquid can quickly subside.

Ingestion: Not a normal route of exposure.

Skin Sensitization: Not available

Respiratory Sensitization: Not available

#### Medical Conditions

Aggravated By Exposure: Not available

### EFFECTS OF CHRONIC EXPOSURE (from short and long-term exposure)

Target Organs: Skin. Eyes. Respiratory system. Blood. Liver. Kidneys. Central nervous system.

Chronic Effects: Not available

|  |   |
|--|---|
| Carcinogenicity:                       | This product does not contain any carcinogens or potential carcinogens as listed by ACGIH, IARC, OSHA, or NTP |
| Mutagenicity:                          | Not available   |
| Reproductive Effects:                  | Not available   |
| Developmental Effects                  |   |
| Teratogenicity:                        | Not available   |
| Embryotoxicity:                        | Not available   |
| Toxicologically Synergistic Materials: | Not available   |

## **SECTION 12 – ECOLOGICAL INFORMATION**

|                                |   |
|--------------------------------|---|
| Ecotoxicity:                   | Gases readily evaporate and would not be expected to have significant adverse environmental effects.                  |
| Persistence and degradability: | The hydrocarbons are expected to be inherently biodegradable.   |
| Biodegradability:              | Expected to be readily biodegradable. Oxidises rapidly by photo-chemical reactions in air.                            |
| Bioaccumulative potential:     | Not expected to bioaccumulate significantly.  |
| Mobility in soil:              | None  |
| Mobility:                      | Because of their extreme volatility, air is the only environmental compartment that hydrocarbon gases will be found.  |
| Other adverse effects:         | No data available   |
| Additional ecological effects: | In view of the high rate of loss from solution, the product is unlikely to pose a significant hazard to aquatic life. |

## **SECTION 13 – DISPOSAL CONSIDERATIONS**

|                         |   |
|-------------------------|---|
| Waste disposal:         | This material is a gas and is not normally managed as a waste<br>Disposal should be in accordance with applicable regulations<br>If necessary, dispose by controlled combustion in purpose-designed equipment |
| Additional information: | Handle empty containers with care because residual vapours are flammable .  |

## SECTION 14 – TRANSPORT INFORMATION

Canada Transportation of Dangerous Goods (TDG)

Proper Shipping Name: UN1075, PETROLEUM GASES, LIQUEFIED, 2.1

Class: 2.1

UN Number: UN1075

Packing Group: Not applicable.

Label Code:



## SECTION 15 – REGULATORY INFORMATION

Canada (DSL): The components of this product are in compliance with the chemical notification requirements of the NSN Regulations under CEPA, 1999

WHMIS Classification: Class A – Compressed Gas  
Class B1 – Flammable Gases

## SECTION 16 – OTHER INFORMATION

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### Disclaimer:

*The information contained in this document applies to this specific substance as supplied. It may not be valid for this substance if it is used in combination with any other materials. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for their own particular use.*