

# NORTH ATLANTIC REFINING LTD.

## MATERIAL SAFETY DATA SHEET

PREPARED: July 11, 2011

Coefficient of water/ oil distribution: Not available  
Solubility in water: 0 %

### SECTION 1. PRODUCT INFORMATION

Product Identifier: **Propane**

Application and Use: Multiple use fuel gas.

Product Description: A colourless gas composed primarily of C3 hydrocarbons and handled as a liquid under pressure.

#### **REGULATORY CLASSIFICATION**

W.H.M.I.S.

CLASS A: COMPRESSED GAS

CLASS B1: FLAMMABLE GAS

#### **MANUFACTURER/SUPPLIER:**

NORTH ATLANTIC REFINING LTD.      CONTACT BETWEEN  
COME BY CHANCE, NFLD. A0B 1N0      07:30 - 1600 HRS N.S.T.  
TEL: (709) 463-8811 (24 hrs.)      Plant Industrial Hygienist  
FAX: (709) 463-8076  
AFTER HOURS:      Plant Security

#### **USE IN CASE OF A DANGEROUS GOODS EMERGENCY:**

CANUTEC: (613) 996 6666

### SECTION 2. REGULATED COMPONENT

THE FOLLOWING ARE DEFINED IN ACCORDANCE WITH SUB-PARAGRAPH 13 (a)(I) TO (iv) OR PARAGRAPH 14(a) OF THE HAZARDOUS PRODUCTS ACT:

Name	%	CAS #
CONTROLLED INGREDIENTS		
PROPANE	90 to 95 v/v	74-98-6
ETHANE	0 to 5 v/v	74-84-0
PROPYLENE	0 to 5 v/v	115-07-1
BUTANE	1 to 2.5 v/v	106-97-8

Manufacturer recommended TWA: 1000 ppm

### SECTION 3. HAZARDS IDENTIFICATION.

#### **Potential Acute Health Effects:**

**Inhalation:** Low toxicity. This gas may displace oxygen and cause suffocation (asphyxiant)

**Eye Contact:** Exposure to rapidly expanding gases may cause frostbite and permanent eye injury.

**Skin Contact:** Exposure to rapidly expanding gases may cause frostbite.

**Ingestion:** Not considered a hazard.

#### **Potential Chronic Health Effects:**

None established

### SECTION 4. TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Gas  
Odour and appearance: Colourless gas; may be odorized  
Odour threshold: Not available  
Density: 0.51 g/cc @ 15 °C  
Vapour pressure: 92000 kPa @ 16 °C  
Vapour density: 1.52 (Air=1)  
Evaporation rate: >1  
Boiling point: -42 oC  
Freezing/melting point: Not available  
pH: Not applicable

### SECTION 5. FIRST AID MEASURES

#### **EYE CONTACT:**

In case of cold burns or frostbite of the eye, get prompt medical attention.

#### **SKIN CONTACT:**

In case of cold burns or frostbite to the skin, get prompt seek medical attention.

#### **INGESTION:**

First aid is not applicable.

#### **INHALATION:**

In emergence situations, use proper respiratory protection to remove the victim from the hazard. Allow the victim to rest in a well-ventilated area. If victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

### SECTION 6. FIRE AND EXPLOSION DATA

Fire Fighting Instructions: Flammable gas, insoluble in water. Use water spray to cool fire-exposed surfaces and to protect personnel. Shut off fuel to fire if it is possible to do so without hazard. If a leak or spill has not ignited, use water spray to disperse the vapours. Remotely disconnect or shut off the power sources. Either, allow the fire to burn out under controlled conditions or extinguish with foam, dry chemicals or other approved extinguishing medium. Try to cover spilled liquid with foam. Respiratory, eye and body protection is required for fire fighting personnel. Response to small fire with extinguishers will usually be done upwind and only if considered safe. Personal protective equipment is usually not required when using portable extinguishers. Response to larger (catastrophic) fires should only be attempted by trained fire fighters.

Flammability: Extremely flammable  
Auto-Ignition Temperature: 432 °C  
Flammable Limits: Approx. 2.4 LEL, 9.5 UEL  
Products of Combustion: CO<sub>x</sub>, and Smoke  
Conditions of Flammability: Heat and ignition source, flame or electric spark.  
Explosion Hazards: Not believed to be sensitive to mechanical agitation. May accumulate static charge.  
Auto-refrigerant: Rapidly expanding gases may cause ice to form. Drains and valves may become inoperable due to ice formation.

### SECTION 7. ACCIDENTAL RELEASE MEASURES

**Small Spill:** Eliminate sources of ignition. Keep people away. Prevent additional discharge. Warn downwind occupant of hazard.

**Large Spill:** Eliminate sources of ignition. Keep people away. Prevent additional discharge. Warn downwind occupant of hazard. Seek advice from the appropriate authorities.

### SECTION 8. REACTIVITY DATA

Stability: Product is stable.  
Conditions for instability: Not available.  
Conditions to avoid: Avoid excessive heat, sources of ignition product extremely flammable  
Incompatibility: Highly reactive with oxidising agents such as peroxides, perchlorates.  
Decomposition products: CO<sub>x</sub>, and Smoke.

# NORTH ATLANTIC REFINING LTD.

## MATERIAL SAFETY DATA SHEET

### SECTION 9. PREVENTATIVE MEASURES

**Personal Protective Equipment:** A full-face shield is recommended to protect eyes and face. Chemically resistant gloves (with a thermal liner) and impervious clothing should be worn at all times while handling the product. When eye or skin contact may occur during short and / or periodic events, long sleeves, chemical-resistant gloves (thermal liner) and a face shield are required. A full-face respirator may be necessary to prevent overexposure by inhalation.

**Engineering Controls:** Highly recommended for all indoor situations to control fugitive emissions. Electrical and mechanical equipment should be explosion proof. Concentrations should be maintained below the lower explosion limit at all times or below the recommended threshold limit value if unprotected personnel are involved. For personnel entry into a confined space (i.e. bulk storage tanks), a proper confined space entry must be followed, including ventilation and testing of tank atmosphere. Make up air should always be supplied to balance air exhausted.

**Land Spill:** Allow gases to dissipate. Eliminate any sources of ignition. Keep the public away. Prevent additional discharge of material if possible to do so without hazard. Consult an expert on disposal of recovered material. Ensure disposal is performed in compliance with government regulations. Notify the appropriate authorities. For spills over 70L in Canada contact the Canadian Coast Guard, 1-800-563-2444. Take additional action to prevent and remedy the adverse effects of the spill.

**Water Spill:** Allow gases to dissipate. Eliminate all sources of ignition. Prevent additional discharge of material. Consult an expert on disposal of recovered material. Ensure disposal is performed in compliance with government regulations. Notify the appropriate authorities. For all spills in Canada contact the Canadian Coast Guard, 1-800-563-2444. Take additional action to prevent and remedy the adverse effects of the spill.

**Storage and handling:** Combustible, store in a cool, dry, well ventilated area away from heat sources.

Keep containers closed. Handle and open propane containers with care.

The information contained herein is based on the data available to us and is believed to be correct. However, North Atlantic Refining Limited makes no warranty, expressed or implied regarding the accuracy of these data or results to be obtained from the use thereof. North Atlantic Refining Limited assumes no responsibility for injury from the use of the product described herein.

Prepared by:

Paul Sullivan

North Atlantic Refining Limited

P.O. Box 40

Come By Chance, Newfoundland, Canada

A0B 1N0

Phone: 709-463-8811 ext 306

FAX: 709-463-3489