SECTION 1 – MATERIAL IDENTIFICATION AND USE

Material Name: PROPANE
Use: Process stream, sales
WHMIS Classification: Class A; Class B, Div. 1
Fire: 4 **Reactivity**: 0 **Health**: 1
TDG: **UN**: 1978 **Class:** 2.1 **Packing Group:** N.Av.
Shipping Name: PROPANE
Manufacturer/Supplier: ENCANA CORPORATION
#1800, 855 - 2nd Street S.W., P.O. BOX 2850
CALGARY, ALBERTA, T2P 2S5

Emergency Telephone: (403) 645-3333

Chemical Family: Aliphatic paraffinic hydrocarbon gas

SECTION 2 – HAZARDOUS INGREDIENTS OF MATERIAL

Hazardous Ingredients	Approximate Concentrations %	C.A.S. Nos.	LD50/LC50 Specify Species & Route	Exposure Limits
Ethane	3 – 5	74-84-0	N.Av.	1000 ppm (OEL, TLV[1])
Propane	95 - 97	74-98-6	N.Av.	1000 ppm (OEL, TLV[1] see also section 6)

OEL = 8 hr. Alberta Occupational Exposure Limit
TLV = Threshold Limit Value (8 hrs) [1] As Aliphatic hydrocarbon gases

SECTION 3 – PHYSICAL DATA FOR MATERIAL

Physical State: Gas
Specific Gravity: 0.5
Vapour Density (air=1): 1.5
Percent Volatiles, by volume: 100
Vapour Pressure (mmHg): Gas
Odour Threshold (ppm): N.Av.
Evaporation Rate: N.Av.
Boiling Pt. (deg.C): -42
Odour & Appearance: colorless, odourless (or may have mercaptan odour)
Freezing Pt. (deg.C): -188
pH: N.App.
Coefficient of Water/Oil Distribution: <0.1
(N.AV. = not available N.App. = not applicable)

SECTION 4 – FIRE AND EXPLOSION

Flammability: Yes **Conditions**: Material will ignite at normal temperatures.
Means of Extinction: Foam, CO2, dry chemical. Explosive accumulations can build up in areas of poor ventilation.
Special Procedures: Use water spray to cool fire-exposed containers, and to disperse gas if leak has not ignited. If safe to do so, cut off fuel and allow flame to burn out.
Flash Point (deg.C) & Method: -104 deg.C.
Upper Explosive Limit (% by vol.): 9.5
Lower Explosive Limit (% by vol.): 2
Auto-Ignition Temp. (deg.C): 450
Hazardous Combustion Products: Carbon monoxide
Sensitivity to Impact: No
Sensitivity to Static Discharge: Yes, may ignite
TDG Flammability Classification: 2.1

SECTION 5 – REACTIVITY DATA

Chemical Stability: Yes **Conditions**: N.App.
Incompatibility: Yes **Substances**: Chlorine and other strong oxidizing agents.
Reactivity: Yes **Conditions**: Heat, strong sunlight
Hazardous Decomposition Products: Carbon dioxide, carbon monoxide

SECTION 6 – TOXICOLOGICAL PROPERTIES OF PRODUCT

Routes of Entry:
Skin Absorption: N.Av. **Skin Contact**: Yes (liquid) **Eye Contact**: Yes
Inhalation: **Acute**: Yes **Chronic**: N.Av. **Ingestion**: No
Effects of Acute Exposure: Inhalation can cause headache, disorientation, dizziness, drowsiness and possibly unconsciousness. Evidence exists that propane can cause these effects at concentrations below those required for oxygen deficiency, for example 10% LEL and above. As concentration increases, oxygen deficiency and asphyxiation may occur.
Rapidly expanding gas or vaporized liquid may cause frostbite to skin and eyes.
Effects of Chronic Exposure: N.Av.
Sensitization to Product: No.
Exposure Limits of Product: 1000 ppm (Alberta OEL, TLV)
Irritancy: N.Av.
Synergistic Materials: None reported
Carcinogenicity: No **Reproductive Effects**: No **Teratogenicity**: No **Mutagenicity**: No

SECTION 7 – PREVENTIVE MEASURES

Personal Protective Equipment: Use positive pressure self-contained breathing apparatus or supplied air breathing apparatus when entering areas where high concentrations may be present.
Gloves: Insulated gloves **Respiratory Protection**: SCBA or SABA **Eye**: Splash goggles and face shield if SCBA or SABA not worn.
Footwear: As per safety policy **Clothing**: As per fire protection policy
Engineering Controls: Use only in well ventilated areas. Mechanical ventilation recommended in confined areas. Equipment must be explosion proof.
Leaks & Spills: If safe to do so, stop gas flow. Remove all ignition sources. Provide clearing ventilation if possible. Prevent from entering confined spaces. Use personal protective equipment.
Waste Disposal: Controlled burning or venting in accordance with regulatory requirements.
Handling Procedures & Equipment: Avoid contact with liquid or liquid cooled equipment. Avoid inhalation. Bond and ground all transfers. Avoid sparking conditions.
Storage Requirements: Store in a cool, dry, well ventilated area away from heat, strong sunlight, and ignition sources.
Special Shipping Information: N.Av.

SECTION 8 – FIRST AID MEASURES

Skin: If freeze burn occurs, gently bathe affected area in warm water (38 – 43 deg. C). Do not rub. Get medical attention.
Eye: Immediately flush with large amounts of luke warm water for 15 minutes, lifting upper and lower lids at intervals. Seek medical attention if irritation persists.
Inhalation: Remove to fresh air. Give oxygen, artificial respiration, or CPR if needed. Seek medical attention.
Ingestion: Usually no effect by this route.

SECTION 9 – PREPARATION DATE OF MSDS

Prepared By: EnCana Environment, Health and Safety (EHS)
Phone Number: (403) 645-2000 Preparation Date: July 1, 2011 Expiry Date: July 1, 2014