

**SECTION 1 – MATERIAL IDENTIFICATION AND USE****Material Name:** NATURAL GAS (SWEET)**Use:** Process stream, sales gas**WHMIS Classification:** Class A; Class B, Div. 1**Fire:** 4 **Reactivity:** 0 **Health:** 1 **Inventory No.:****TDG:** UN: 1971 **Class:** 2.1 **Packing Group:** N. App.**Shipping Name:** NATURAL GAS, COMPRESSED (with high methane content)**Manufacturer/Supplier:** ENCANA CORPORATION#1800, 855 - 2<sup>nd</sup> Street S.W., P.O. BOX 2850

CALGARY, ALBERTA, T2P 2S5

**Emergency Telephone:** 403-645-3333**Chemical Family:** Mixture of light paraffin hydrocarbon gases**SECTION 2 – HAZARDOUS INGREDIENTS OF MATERIAL**

<b>Hazardous Ingredients</b>	<b>Approximate Concentrations %</b>	<b>C.A.S. Nos.</b>	<b>LD50/LC50 Specify Species &amp; Route</b>	<b>Exposure Limits</b>
Butanes	0 – 10	106-97-8	LC50, rat, 4 hr., 658 g/m <sup>3</sup>	1000 ppm (OEL) 1000 ppm (TLV <sup>1</sup> )
Ethane	0 – 15	74-84-0	N.Av.	1000 ppm (TLV <sup>1</sup> )
Methane	70 - 90	74-82-8	N.Av.	1000 ppm (TLV <sup>1</sup> )
Propane	0 – 10	74-98-6	N.Av.	1000 ppm (OEL, TLV <sup>1</sup> ) (see also section 6)

OEL = 8 hr. Alberta Occupational Exposure Limit TLV = Threshold Limit Value (8 hrs)

<sup>1</sup> As Aliphatic hydrocarbon gases**SECTION 3 – PHYSICAL DATA FOR MATERIAL****Physical State:** Gas**Specific Gravity:** 0.3 – 0.5**Vapour Density (air=1):** 0.5 – 0.94**Percent Volatiles, by volume:** 100**Odour & Appearance:** colourless, odourless or mercaptan odour**Freezing Pt. (deg.C):** -180**pH:** N.App.

(N.AV. = not available N.App. = not applicable)

**Vapour Pressure (mmHg):** Gas (usually 300 – 600 psi in pipeline)**Odour Threshold (ppm):** N.Av.**Evaporation Rate:** N.Av.**Boiling Pt. (deg.C):** -150**Coefficient of Water/Oil Distribution:** <0.1**SECTION 4 – FIRE AND EXPLOSION****Flammability:** Yes **Conditions:** Material will ignite at normal temperatures.**Means of Extinction:** Foam, CO<sub>2</sub>, 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:** <-150 deg.C.**Upper Explosive Limit (% by vol.):** 15**Lower Explosive Limit (% by vol.):** 3**Auto Ignition Temp. (deg.C):** 285 - 537**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:** Drowsiness, headache, dizziness and possibly unconsciousness at concentrations below those required for oxygen deficiency, for example 10% LEL and above. At higher concentrations can cause oxygen deficiency and possible asphyxiation.

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 (OELs, TLVs)**Irritancy:** N.Av.**Synergistic Materials:** None reported**Carcinogenicity:** N.Av.**Reproductive Effects:** N.Av.**Teratogenicity:** N.Av.**Mutagenicity:** N.Av.

## 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:** SCBA or SABA**Eye:** Full facepiece SCBA or SABA**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 appropriate 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:** N.App.

## 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