



Material Safety Data Sheet (Canada) Natural Gas Liquids

Section 1 – Material Identification and Use

Material Name: NATURAL GAS LIQUIDS
Use: Feedstock, fuel
WHMIS Classification: Class A; Class B, Div. 1 and Div. 2; Class D, Div. 2, Sub-Div. A and B
TDG: UN: 1075 **Class:** 2.1 **Packing Group:** N.Av.
Shipping Name: LIQUIFIED PETROLEUM GASES
Manufacturer/Supplier: ENCANACORPORATION
500 Centre Street SE
CALGARY, ALBERTA, T2P 2S5
Emergency Telephone: CANUTEC: 1-613-996-6666
Chemical Family: Liquified aliphatic paraffinic and aromatic hydrocarbons

Section 2 – Hazardous Ingredients of Materials

Hazardous Ingredients	Approximate Concentrations %	C.A.S. Nos.	LD50/LC50 Specify Species & Route	Exposure Limits
Natural Gas Condensates	25-85	68919-39-1	LC50, rat, >5610 mg/m ³	300 & 500 ppm (STEL) (AB, TLV & BC)
Butane	10-40	106-97-8	LC50, rat, 4 hrs, 658 g/m ³	1000/ 600 (750) ppm (AB & TLV/ BC (STEL))
Propane	5-35	74-9-86	N.Av.	1000 ppm (AB & BC)
Ethane	<10	74-8-40	N.Av.	1000 ppm (AB & BC)
Benzene	0.1-1	71-43-2	LD50, rat, oral, 930 mg/kg LC50, rat, 4 hrs, 13200 ppm	0.5 & 2.5 ppm (STEL) (AB, TLV & BC)

All exposure levels are 8-hour time-weighted exposure limits unless otherwise indicated. STEL is a short-term exposure limit over a 15 minute time-weighted average. Gasoline exposure levels presented for Natural Gas Condensates.

Section 3 – Physical Data for Material

Physical State: Liquids and liquified gas
Specific Gravity: 0.54
Vapour Density (air=1): >2
Percent Volatiles, by volume: 100
Freezing Pt. (deg.C): -164
Odour & Appearance: colorless, odourless (or may have a mercaptan odour)
(N.A.V. = not available N.App. = not applicable)

Vapour Pressure: 15000 @ 20°C
Odour Threshold (ppm): N.Av.
Evaporation Rate: N.Av.
Boiling Pt. (deg.C): -26
Coefficient of Water/Oil Distribution: <0.1

Section 4 – Fire and Explosion

Flammability: Yes **Conditions:** Product 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): <-50 to -135
Upper Explosive Limit (% by vol.): 13
Lower Explosive Limit (% by vol.): 2
Auto-Ignition Temp. (deg.C): >400
Hazardous Combustion Products: Carbon monoxide and carbon dioxide

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



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Section 6 – Toxicological Properties of Product

Routes of Entry:

Skin Absorption: Yes

Skin Contact: Yes (liquid)

Eye Contact: Yes

Inhalation: Acute: Yes

Chronic: Yes

Ingestion: Yes (liquid)

Effects of Acute Exposure: Inhalation can cause headache, disorientation, dizziness, drowsiness and possibly unconsciousness. As concentration increases, oxygen deficiency and asphyxiation may occur. Rapidly expanding gas or vaporized liquid may cause frostbite to skin and eyes. Absorbed through intact skin. Contact of liquid with eyes may cause severe irritation.

Effects of Chronic Exposure: Due to presence of benzene, long term or high dose rate exposures may increase the risk of anemia and leukemia.

Sensitization to Product: No.

Irritancy: N.Av.

Synergistic Materials: None reported

Carcinogenicity: Yes

Reproductive Effects: Possibly

Teratogenicity: Possibly

Mutagenicity: Possibly

Section 7 – Preventative Measures

Personal Protective Equipment: Use a NIOSH approved positive pressure self-contained breathing apparatus or supplied air breathing apparatus when concentrations may exceed exposure limits. Use approved gas detectors; however, note that combustible gas detection will likely not offer warning against overexposure to this product.

Respiratory: SCBA, SABA or cartridge APR

Eye: Full facepiece SCBA or SABA

Footwear: Covered footwear such as steel-toed boots.

Clothing: Fire retardant garments that meet NFPA 2112.

Engineering Controls: Use only in well ventilated areas. Mechanical ventilation required 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. Contact applicable regulatory authorities.

Waste Disposal: Controlled burning or venting in accordance with regulatory requirements.

Handling Procedures & Equipment: Avoid contact with liquid. Avoid inhalation. Bond and ground all transfers. Avoid sparking conditions. Industrial hygiene monitoring such as that detailed in NIOSH Methodology 1501 is required when handling or working near this material.

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: Ensuring own safety, remove victim to fresh air. Give oxygen, artificial respiration, or CPR if needed. Seek immediate medical attention.

Ingestion: Ingestion of liquid causes freeze burns to mouth, throat, esophagus and lungs. Get immediate medical attention.

Section 9 – Preparation Date of MSDS

Prepared By: Encana Environment, Health and Safety (EH&S)

Phone Number: (403) 645-2000 Preparation Date: July 1, 2014

Expiry Date: July 1, 2017