



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

El Paso Corporation
and its subsidiaries
1001 Louisiana Street
Houston, Texas 77002

Information: (713) 420-2600
CHEMTREC: (800) 424-9300

Product Name: Liquefied Natural Gas
MSDS Number: A0103.msd

Last Revision: new
Date Prepared: 12/01/2007

Synonyms: Dry Natural Gas, Compressed Natural Gas (CNG), Liquefied Natural Gas (LNG), Methane, Processed Gas, Sweet Natural Gas, Treated Gas

Product Description: Complex mixture of petroleum hydrocarbons

2. COMPOSITION & INFORMATION ON INGREDIENTS

Components	CAS No	Wt%	Occupational Exposure Limits*			Units
			OSHA PEL	ACGIH TLV	Other	
Methane	74-82-8	85-97	N/A	N/A		
Ethane	74-84-0	2-12	N/A	N/A		
Carbon Dioxide	124-38-9	1-5	5000	5000	30000#	ppm

Key: * = 8-Hr. TWA unless otherwise specified
N/A = Not Established by OSHA
= Short Term Exposure Limit; 15 minutes.

A complex mixture of light gases separated from raw natural gas consisting of aliphatic hydrocarbons having carbon numbers in the range of C1 through C4 predominately methane (C1) and ethane (C2). May be odorized with trace amounts of odorant (typically well below 0.1% t-butyl mercaptan).

3. HAZARD IDENTIFICATION

Note: This product has not been tested by El Paso Corporation to determine its specific health hazards. Therefore, the information provided in this section includes health hazard information on the product components.

Primary Route of Entry

Eyes: No Skin: No Inhalation: Yes Ingestion: No

Potential Health Effects from Overexposure:

Acute Effects:

Eyes: Vapors are not irritating. However, contact with liquid or cold vapor may cause frostbite, freeze burns, and permanent eye damage.

Skin: Vapors are not irritating. Direct contact to the skin or mucous membrane with liquefied product or cold vapor may cause freeze burns and frostbite. Signs of frostbite include a change in the color of the skin to gray or white, possibly followed by blistering. Skin may become inflamed and painful.

Ingestion: Ingestion is unlikely. Contact of the mucous membranes with liquefied product may cause frostbite or freeze burns.

Inhalation: This product is considered to be non-toxic by inhalation. Inhalation of high concentrations may cause central nervous system depression such as dizziness, drowsiness, headache, and similar narcotic symptoms, but no long term effects. Numbness, a “chilly” feeling, and vomiting have been reported from accidental exposure to high concentrations.

This product is a simple asphyxiant. In high concentrations it will displace oxygen from the breathing atmosphere, particularly confined spaces. Signs of asphyxiation will be noticed when oxygen is reduced to below 16% and may occur in several stages. Symptoms may include rapid breathing and pulse rate, headache, dizziness, visual disturbances, mental confusion, incoordination, mood changes, muscular weakness, tremors, cyanosis, narcosis and numbness of the extremities. Unconsciousness leading to central nervous system injury and possibly death will occur with inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Warning:

The burning of any hydrocarbon as a fuel in an area without ventilation may result in a hazardous level of combustible products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Chronic Effects:

None expected – see Section 11.

Medical Conditions Aggravated by Exposure:

Individuals with pre-existing conditions of the heart, lungs, and blood may have increased susceptibility to symptoms of asphyxia.

4. FIRST AID MEASURES

Eye Contact: In case of frostbite or freeze burns, gently soak the eyes with cool to lukewarm water. DO NOT WASH THE EYES WITH HOT WATER (i.e. over 105 degrees). Open eyelids wide to allow liquid to evaporate. If the person cannot tolerate light, protect the eyes with a bandage or handkerchief. Do not introduce ointment into the eyes without medical advice. Seek immediate medical treatment.

Skin Contact: Remove contaminated clothing and flush affected area with cool to lukewarm water. Rewarming the exposed area may be performed, however DO NOT USE HOT WATER. Seek immediate attention if blistering, tissue freezing, or frostbite has occurred.

Ingestion: DO NOT INDUCE VOMITING BECAUSE OF DANGER BREATHING LIQUID INTO LUNGS. Seek immediate medical attention. Rinse mouth with water. Administer 1 to 2 glasses of water or milk to drink. Never administer liquids to an unconscious person.

Inhalation: Remove person to fresh air. If the person is not breathing, give artificial respiration. If breathing is difficult, give oxygen. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek immediate medical attention.

Medical Providers: Medical providers are urged to contact a Regional Poison Center at 800-222-1222.

5. FIRE FIGHTING MEASURES

Flash Point Method:	Extremely Flammable Gas
Auto-ignition Point:	900 - 1170°F (482-632°C)
OSHA/NFPA Flammability Class:	Flammable Gas
Lower Flammability Limit (%):	3.8 – 6.5
Upper Flammability Limit (%):	13 – 17

NFPA Ratings: Health: 1 Flammability: 4 Reactivity: 0

Fire and Explosion Hazards:

Liquid releases of flammable vapors at well below ambient temperatures readily form a flammable mixture with air. Dangerous fire and explosion hazard when exposed to heat, sparks, or flame. Vapors are heavier than air and may travel long distances to a point of ignition or flashback. Container may explode in heat or fire. Runoff to sewer may cause fire or explosion hazard.

Extinguishing Media:

Dry chemical, carbon dioxide, halon, or water; class C, B, or A extinguisher, respectively. However, fire should not be extinguished unless flow of gas can be immediately stopped.

Fire Fighting Instructions:

Gas Fires should not be extinguished unless flow of gas can be immediately stopped. Shut off source and allow gas to burn out. If spill or leak has not ignited, determine if water spray may assist in dispersing gas or vapor to protect personnel attempting to stop the leak.

Use water to cool equipment, surfaces and containers exposed to fire and excessive heat. For large fires, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.

Isolate the area, particularly around the edge of storage vessels. Let vessel, tank car, or container burn unless leak can be stopped. Withdraw immediately in the event of a rising sound from the venting of a safety device. Large fires typically require NIOSH/MSHA-approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

6. ACCIDENTAL RELEASE

Activate facility Spill Contingency Plan (e.g. SPCC, RCRA, OPA, or Emergency Plan).

Evacuate non-essential personnel and remove or secure all ignition sources. Consider wind direction; stay upwind and uphill, if possible to evaluate the direction of product travel. Vapor cloud may be white, but color will dissipate as cloud disperses – fire and explosion is still present.

Stop the source of the release, if safe to do so. Do not flush down sewer or drainage system. Do not touch spill liquid (Frostbite or freeze burn hazard). Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering.

7. HANDLING & STORAGE

Keep away from flame, sparks, and excessive temperatures. Store only in approved containers. Bond and ground containers. Use only in well ventilated areas. See also applicable OSHA regulations for the handling of this product, including, but not limited to, 29 CFR 1910.110 Storage and Handling of Liquefied Petroleum Gases.

8. EXPOSURE CONTROL, PERSONAL PROTECTION

Engineering Controls: Use adequate ventilation to keep vapor concentration of this product below occupational exposure and flammability limits, particularly in confined spaces. Use explosion proof equipment and lighting in classified/controlled areas.

Eye Protection: Where there is a possibility of liquid contact, wear splash proof SAFETY goggles and faceshield.

Skin Protection: When contact with liquid may occur, wear apron, faceshield, and cold-impervious, insulating gloves.

Inhalation: Use a NIOSH/MSHA approved positive-pressure, supplied air respirator with escape bottle or self-contained breathing apparatus (SCBA) for gas concentrations above occupational exposure limits, for potential uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere.

Caution: Flammability limits (i.e. explosion hazard) should be considered when assessing the need to expose personnel concentrations requiring respiratory protection selection.

9. PHYSICAL & CHEMICAL PROPERTIES

Appearance: A colorless gas. Cold vapor cloud may be white but the lack of visible gas cloud does not indicate absence of gas. A colorless liquid under pressure.

Odor: Odorless when pure, but may have a “natural gas” type odor when treated with odorizing agent (usually t-butyl mercaptan).

Boiling Range: -259°F (-162°C)
Vapor Pressure: 40 atm. @ -187°F (-86°C)
Vapor Density (air=1): 0.6
Specific Gravity (H2O=1): 0.4 @ -263°F (-164°C)

Solubility (H2O): 3.5%

10. STABILITY & REACTIVITY

Stability:

Stable.

Conditions to Avoid:

Keep away from ignition sources and heat, high temperatures, open flames, sparks, welding, smoking, static electricity, and other ignition sources.

Incompatible Materials:

Keep away from strong oxidizers.

Hazardous Decomposition Products:

Carbon monoxide, carbon dioxide, and non-combustible hydrocarbons (smoke).

Hazardous Polymerization:

Will not occur.

11. TOXICOLOGICAL INFORMATION

Chronic Effects of Carcinogenicity:

OSHA: No IARC: No NTP: No ACGIH: No

12. ECOLOGICAL INFORMATION

Liquid release is only expected to cause localized, non-persistent environmental damage, such as freezing. Biodegradation of this product may occur in soil and water. Volatilization is expected to exist entirely in the vapor phase in ambient air.

13. DISPOSAL INFORMATION

Consult federal, state, and local waste regulations to determine appropriate waste characterization of material and allowable disposal methods.

14. TRANSPORT INFORMATION

Proper Ship Name: Natural Gas Compressed
Hazard Class: 2.1
DOT Identification Number: UN1971
DOT Shipping Label: Flammable Gas

Proper Ship Name: Natural Gas Refrigerated Liquid (Cryogenic liquid with high methane content)
Hazard Class: 2.1
DOT Identification Number: UN1972
DOT Shipping Label: Flammable Gas

15. REGULATORY INFORMATION

US Federal Regulatory Information:

