

MATERIAL SAFETY DATA SHEET

LIQUIDIFIED NATURAL GAS
#103

1. CHEMICAL PRODUCT and COMPANY INFORMATION

EL PASO ENERGY
1001 LOUISIANA
HOUSTON, TEXAS 77002

NFPA HAZARD RATING

HEALTH: 1
FIRE: 4
REACTIVITY: 0
OTHER: -

EMERGENCY TELEPHONE: INFOTRAC (800) 535-5053 (24 HOURS)

CHEMICAL FAMILY: Complex mixture of petroleum hydrocarbons.

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



**BE SAFE! READ OUR PRODUCT SAFETY INFORMATION
AND PASS IT ON!
(PRODUCT LAW REQUIRES IT!)**

2. COMPOSITION AND INFORMATION ON INGREDIENTS

Ingredient Name	CAS Number	OSHA PEL	ACGIH TLV	ACGIH (STEL)	Concentration (percent by weight)
Methane	74-82-8	N/A*	N/A*	N/A*	85 - 90
Ethane	74-84-0	N/A*	N/A*	N/A*	4 - 5
Carbon Dioxide	124-38-9	5000 ppm	5000 ppm	30,000 ppm	1 - 5

* None established by OSHA or ACGIH.

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).

EMERGENCY OVERVIEW
DANGER!

EXTREMELY FLAMMABLE GAS-MAY CAUSE FLASH FIRE OR EXPLOSION-IN HIGH CONCENTRATIONS

High concentrations may exclude oxygen and cause dizziness and suffocation. Contact with liquid or cold vapor may cause frostbite or freeze.

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Eyes: NO Skin: NO Inhalation: YES Ingestion: NO

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 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 hazardous level of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.*

CHRONIC and CARCINOGENICITY

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**EYES**

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

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 medical attention immediately.

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FLASH POINT METHOD:	Extremely Flammable gas
AUTOIGNITION POINT:	900-1170°F (482 -632°C)
OSHA/NFPA FLAMMABILITY CLASS:	Flammable gas
LOWER EXPLOSIVE LIMIT (%):	3.8 - 6.5
UPPER EXPLOSIVE LIMIT (%):	13 - 17

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 gas 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 fire, the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.

Isolate the area, particularly around the ends of the storage vessel. 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 MEASURES**ACTIVATE FACILITY SPILL CONTINGENCY PLAN (e.g. SPCC, RCRA, OPA, or EMERGENCY plan).**

Evacuate nonessential 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 hazard is still present!

Stop the source of the release, if safe to do so. Do not flush down sewer or drainage systems. Do not touch spilled 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 and STORAGE**HANDLING and STORAGE PRECAUTIONS**

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.

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

EYE/FACE 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.

RESPIRATORY PROTECTION

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 to concentrations requiring respiratory protection selection.

Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.

9. PHYSICAL and 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).

BASIC PHYSICAL PROPERTIES

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 and 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 noncombustible hydrocarbons (smoke).

HAZARDOUS POLYMERIZATION

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Will not occur.

11. TOXICOLOGICAL PROPERTIES

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 CONSIDERATIONS

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

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: Natural Gas Compressed (with high methane content)
HAZARD CLASS: 2.1
DOT IDENTIFICATION NUMBER: UN1971
DOT SHIPPING LABEL: FLAMMABLE GAS

PROPER SHIPPING 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

U.S. FEDERAL REGULATORY INFORMATION

This product and its constituents listed herein are on the EPA TSCA Inventory.

Any spill or uncontrolled release of this product, including any substantial threat of release, may be subject to federal reporting requirements. Consult those regulations applicable to your facility/operation.

CERCLA SECTION 103 and SARA SECTION 304 (RELEASE TO THE ENVIRONMENT)

The CERCLA definition of hazardous substances contains a "petroleum exclusion" clause which exempts crude oil, refined, and unrefined petroleum products and any indigenous components of such. However, other federal reporting requirements (e.g. SARA Section 304 as well as the Clean Water Act if the spill occurs on navigable waters) may still apply.

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION

SARA TITLE III - HAZARD CLASSES: ACUTE HEALTH HAZARD
CHRONIC HEALTH HAZARD
FIRE HAZARD

This product does not contain any chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA) of 1986 and of 40 CFR 372. **This information must be included on all MSDSs that are copied and distributed for this material.**

U.S. STATE REGULATORY INFORMATION

Any spill or controlled release of this product may be subject to state and/or local reporting requirements. This product and/or its constituents may also be subject to other regulations at the state and/or local level. Consult those regulations applicable to your facility/operation.

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CANADIAN REGULATORY INFORMATION (WHMIS)

WHMIS: Class A (Compressed Gas) Class B, Division 1 (Flammable Gas)

16. OTHER INFORMATION

NFPA HAZARD RATING	HEALTH:	1	Slight
	FIRE:	4	Extreme
	REACTIVITY:	0	Negligible
	OTHER:	-	
HMIS HAZARD RATING	HEALTH:	1	Slight
	FIRE:	4	Severe
	REACTIVITY:	0	Minimal

Supercede: New

DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES

Information presented herein has been compiled from sources considered to be dependable, and is accurate and reliable to the best of our knowledge and belief, but is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgment.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable SAFETY procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable SAFETY procedures are followed. Furthermore, vendee assumes the risk in their use of the material.