

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 00016
Product Name: Natural Gas (LNG)
Company Name: Gas Innovations
 18005 E. Hwy 225
 La Porte, TX 77571
Phone Number: +1 (281)471-2200

Web site address: www.gasinnovations.com

Emergency Contact: 3E (within United States) +1 (866)303-2640
Information: Infotrac (outside of United States) +1 (352)323-3500

Synonyms: UN 1972 Natural Gas, Refrigerated Liquid.

2. HAZARDS IDENTIFICATION

Flammable Gases, Category 1
 Gas Under Pressure, Compressed gas



GHS Signal Word: Danger

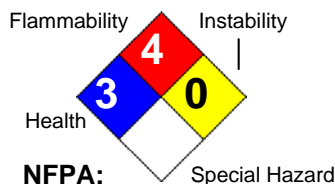
GHS Hazard Phrases: H220 - Extremely flammable gas.
 H280 - Containers gas under pressure; may explode if heated.

GHS Precaution Phrases: P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

GHS Response Phrases: P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
 P381 - Eliminate all ignition sources if safe to do so.

GHS Storage and Disposal Phrases: P410+403 - Protect from sunlight and store in well-ventilated place.

Hazard Rating System:



Potential Health Effects (Acute and Chronic): Liquid causes frostbite, a freezing injury resembling a burn.

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation. This material can act as a simple asphyxiant by displacement of air. May cause headache, nausea, and drowsiness. May cause dizziness, nausea, or unconsciousness.

Skin Contact: May be harmful if absorbed through the skin. May cause skin irritation. May cause frostbite.

Eye Contact: Not a likely route of exposure. May cause eye irritation. May cause frostbite.

Ingestion: Not a likely route of exposure. May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
74-82-8	Methane	>99.0 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	Consult a physician. Move out of dangerous area.
In Case of Inhalation:	If breathed in, move person into fresh air. If not breathing give artificial respiration. Mouth-to-mouth resuscitation should be used immediately for a victim of methane asphyxiation. Get immediate medical advice/attention.
In Case of Skin Contact:	For exposure to liquid, immediately warm frostbite area with warm water not to exceed 105F (41C). In case of massive exposure, remove contaminated clothing while showering with warm water. Consult a physician.
In Case of Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart and flush eyes with plenty of water. After initial flushings, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	Not a likely route of exposure. Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
Note to Physician:	Show this safety data sheet to the doctor in attendance.

5. FIRE FIGHTING MEASURES

Flash Pt:	-188 C (-306 F) Method Used: Closed Cup
Explosive Limits:	LEL: 5% (V) UEL: 15% (V)
Autoignition Pt:	600 C (1110 F)
Suitable Extinguishing Media:	Dry chemical, CO2 or water spray.
Fire Fighting Instructions:	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Evacuate all personnel from danger area. Immediately spray tank with water from maximum distance until cool. Take care not to direct spray onto vents; take care not to extinguish flames. Do not discharge sprays into liquid methane. Liquid methane will freeze water rapidly. Shut off flow of gas if without risk, while continuing cooling water spray. Remove sources of ignition if without risk. Allow flames to burn out. If flames are accidentally extinguished, explosive reignition may occur. All personnel, including fire and rescue workers should leave the area immediately. Reapproach with extreme caution. Self-contained breathing apparatus and protective clothing may be required by rescue workers. On-site fire brigades must comply with OSHA 29 CFR 1910.156.
Flammable Properties and Hazards:	Highly flammable, extremely cold liquid and gas. Forms explosive mixtures in air and with oxidizing agents. High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, Fireball forms if gas is ignited immediately after release.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	Use proper personal protective equipment as indicated in Section 8.
Environmental Precautions:	Prevent waste from contaminating the surrounding environment. Keep personnel away. Discard any product residue, disposable container, or liner in an environmentally acceptable manner, in full compliance with federal, state and local regulations. If necessary, call your local supplier for assistance.
Steps To Be Taken In Case Material Is Released Or Spilled:	Forms explosive mixtures with air. Immediately evacuate all personnel from danger area. Use self-contained breathing apparatus where needed. Remove all sources of ignition if safe to do so. Reduce vapors with fog or fine water spray, taking care not to spread liquid with water. Shut off flow if safe to do so. Ventilate area or move container to a well-ventilated area. Flammable vapors may spread from leak and could explode if

reignited by sparks or flames. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an appropriate device.
On-site fire brigades must comply with OSHA 29 CFR 1910.156.

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:

No part of tank should be subjected to a temperature higher than 125F (52C). Use spark-proof tools and explosion proof equipment. Keep away from heat, sparks and flame. Methane gas can cause rapid suffocation due to oxygen deficiency. Never allow any unprotected part of your body to touch uninsulated pipes or vessels containing cryogenic fluids. Flesh will stick to the extremely cold metal and will tear when you try to pull free. All piped methane systems and associated equipment must be grounded. Electrical tools must be nonsparking or explosion-proof. Leak-check system with soapy water; never use a flame. If valve is hard to open, discontinue use and contact your supplier.

Precautions To Be Taken in Storing:

Store and use with adequate ventilation - never in a confined space. Do not store at temperatures above 125F (52C). Use adequate pressure relief devices in systems and piping to prevent pressure buildup; entrapped liquid can generate extremely high pressures when vaporized by warming. Separate containers from oxygen and other oxidizers by at least 20 ft (6.1 m), or use a barricade of noncombustible material. This barricade should be at least 5 ft (1.53 m) high and have a fire resistance rating of at least one half hour. Post "No Smoking or Open Flames" signs in storage and use areas. There must be no sources of ignition. All electrical equipment in storage areas must be explosion-proof. Storage areas must meet national electric codes for Class 1 hazardous areas.

Other Precautions:

Liquid methane tanks are equipped with pressure relief devices. Venting vapors may obscure visibility. If venting or leaking methane catches fire, do not extinguish flames. Flammable vapors may spread from leak creating an explosive reignition hazard. Vapors can be ignited by pilot lights, other flames, smoking, sparks, heaters, electrical equipment, static discharge, or other ignition sources at locations distant from product handling point. Explosive atmospheres may linger. Before entering area, especially confined areas, check atmosphere with an approved explosion meter. Never touch live electrical parts.

Avoid materials incompatible with cryogenic use; some metals such as carbon steel may fracture easily at low temperature. To prevent liquid or cold gas from being trapped in piping between valves, equip the piping with pressure relief devices. Use only transfer lines designed for cryogenic liquids. It is recommended to pipe all vents to the exterior of the building. Always store and use with adequate ventilation. Never work on a pressurized system. If a leak occurs, follow established procedures for isolation and blow down before attempting any repair. Never place a compressed gas cylinder where it may become part of an electrical circuit.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
74-82-8	Methane	No data.	TLV: Simple asphyxiant ppm	No data.

Respiratory Equipment (Specify Type):	When workplace conditions warrant respirator use, follow a respiratory protection program that meets OSHA 29 CFR 1910.134, ANSI Z88.2, or MSHA 30 CFR 72.710 (where applicable). Use an air-supplied or air-purifying cartridge if the action level is exceeded. Ensure that the respirator has the appropriate protection factor for the exposure level. If cartridge type respirators are used, the cartridge must be appropriate for the chemical exposure (e.g., an organic vapor cartridge). For emergencies or instances with unknown exposure levels, use a self-contained breathing apparatus (SCBA).
Eye Protection:	Wear safety glasses when handling cylinders; vapor-proof goggles and a face shield during cylinder change out or whenever contact with product is possible. Select eye protection in accordance with OSHA 29 CFR 1910.133.
Protective Gloves:	Wear loose-fitting, cryogenic gloves.
Other Protective Clothing:	Wear metatarsal shoes for cylinder handling, and protective clothing where needed. Cuffless trousers should be worn outside shoes.
Engineering Controls (Ventilation etc.):	Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
Work/Hygienic/Maintenance Practices:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	<input type="checkbox"/> Gas <input checked="" type="checkbox"/> Liquid <input type="checkbox"/> Solid
Appearance and Odor:	Appearance: colorless. Odorless. Odor: Cryogenic liquid.
Melting Point:	-183 C (-297 F)
Boiling Point:	-162 C (-259 F)
Autoignition Pt:	600 C (1110 F)
Flash Pt:	-188 C (-306 F) Method Used: Closed Cup
Explosive Limits:	LEL: 5% (V) UEL: 15% (V)
Specific Gravity (Water = 1):	0.56 - Air=1 at 15.6 C (60.1 F)
Density:	NA
Vapor Pressure (vs. Air or mm Hg):	0.55 (Air=1)
Vapor Density (vs. Air = 1):	NA
Evaporation Rate:	High (BuAC=1)
Solubility in Water:	Slight at 20.0 C (68.0 F)
Saturated Vapor Concentration:	NA
Viscosity:	NA
pH:	NA
Percent Volatile:	100 % by volume.

Molecular Formula & Weight: CH₄ 16.042**10. STABILITY AND REACTIVITY**

Reactivity:	Forms explosive mixtures in air and with oxidizing agents.
Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Heat, flames and sparks. Air. Stable under recommended storage conditions.
Incompatibility - Materials To Avoid:	Strong oxidizing agents. Air. Oxygen, Mixtures with bromine pentafluoride, chlorine, yellow mercuric oxide, nitrogen trifluoride, liquid oxygen, and oxygen difluoride may explode.
Hazardous Decomposition Or Byproducts:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, At temperatures exceeding 1292F (700C) and in the absence of oxygen or air, methane may decompose to form hydrogen.
Possibility of Hazardous Reactions:	Will occur [X] Will not occur []
Conditions To Avoid - Hazardous Reactions:	No data available.

11. TOXICOLOGICAL INFORMATION

Toxicological Information:	Epidemiology: No information available. Teratogenicity: No information available. Reproductive Effects: No information available. Mutagenicity: No information available. Neurotoxicity: No information available. This material can act as a simple asphyxiant by displacement of air.
Irritation or Corrosion:	No data available.
Carcinogenicity:	NTP? No IARC Monographs? No OSHA Regulated? No

12. ECOLOGICAL INFORMATION

General Ecological Information:	Environmental: No information available. Physical: No information available.
Persistence and Degradability:	No data available.
Bioaccumulative Potential:	No data available.
Mobility in Soil:	No data available.

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method:	Do not attempt to dispose of residual or unused quantities. Return container to supplier. Dispose of contents/containers in accordance with local/regional/national/international regulations.
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14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Methane, refrigerated liquid [(cryogenic liquid)] [or] Natural gas, refrigerated liquid [(cryogenic liquid), with high methane content]

DOT Hazard Class: 2.1 FLAMMABLE GAS

UN/NA Number: UN1972



15. REGULATORY INFORMATION

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
74-82-8	Methane	No	No	No

CAS #	Hazardous Components (Chemical Name)
74-82-8	Methane

Other US EPA or State Lists

TSCA: Yes - Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: Yes; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes - 1202; NY Part 597: No; PA HSL: Yes - 1; SC TAP: No; WI Air: No

CAS #	Hazardous Components (Chemical Name)
74-82-8	Methane

International Regulatory Lists

Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1971; Australia ICS: Yes; New Zealand IOC: Yes; China IECS: Yes; Japan ENCS: Yes - (2)-1; Korea ECL: Yes - KE-23181; Philippines ICCS: Yes; REACH: Yes - (R), (P)

16. OTHER INFORMATION

Revision Date: 04/12/2015

Additional Information About This Product: No data available.

This Product:**Company Policy or****Disclaimer:**

The information, recommendations, and suggestions herein were compiled from reference material and other sources believed to be reliable. However, the SDS's accuracy or completeness is not guaranteed by Gas Innovations or its affiliates, nor is any responsibility assumed or implied for any loss or damage resulting from inaccuracies or omissions. Since conditions of use are beyond our control, no warranties of merchantability of fitness for a particular purpose are expressed or implied. This SDS is not intended as a license to operate under, or a recommendation to infringe on, any patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.