

1. PRODUCT AND COMPANY IDENTIFICATION

Product Code: 00011
Product Name: Methane
Company Name: Gas Innovations

18005 E. Hwy 225
 La Porte, TX 77571

Web site address: www.gasinnovations.com **Phone Number:** +1 (281)471-2200
Emergency Contact: 3E (within United States) +1 (866)303-2640
Information: Infotrac (outside of United States) +1 (352)323-3500

2. HAZARDS IDENTIFICATION

Flammable Gases: Category 1
Gas Under Pressure: Compressed gas

Symbol:



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

P202 - Do not handle until all safety precautions have been read and understood

P271 - Use only outdoors or in a well-ventilated area

GHS Response Phrases:

P280 - Wear eye protection, face protection, protective gloves, protective clothing.

P308+P313 - If exposed or concerned get medical advice/attention.

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

GHS Storage and Disposal Phrases:

P381 - Eliminate all ignition sources if safe to do so.

P410+403 - Protect from sunlight and store in well-ventilated place.

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing

CGA-PG02 - Protect from sunlight when ambient temperature exceeds 52°C/125 °F

CGA-PG05 - Use a back flow preventive device in the piping

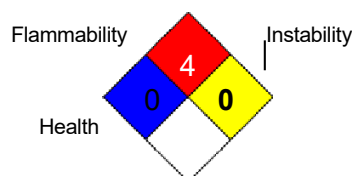
CGA-PG06 - Close valve after each use and when empty

CGA-PG10 - Use only with equipment rated for cylinder pressure

CGA-PG14 - Approach suspected leak area with caution

CGA-PG21 - Open valve slowly

Hazard Rating System:



NFPA: Special Hazard

Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation. This material can act as a simple asphyxiant by displacement of air. nausea, vomiting, difficulty breathing, irregular heartbeat, headache, drowsiness, dizziness, disorientation, mood swings, loss of coordination, suffocation, convulsions, unconsciousness, coma.
Skin Contact:	May be harmful if absorbed through the skin can cause frostbite. May cause skin irritation.
Eye Contact:	May cause eye irritation
Ingestion:	May be harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #	Hazardous Components (Chemical Name)	Concentration
74-82-8	Methane	100 %

4. FIRST AID MEASURES

Emergency and First Aid Procedures:	Consult a physician. Show this safety data sheet to the doctor in attendance.
In Case of Inhalation:	If breathed in, move person into fresh air. If not breathing gives artificial respiration. Consult a physician.
In Case of Skin Contact:	Wash off with soap and plenty of water. If skin irritation occurs, get medical advice/attention. If frostbite or freezing occur, immediately flush with plenty of lukewarm water, gently wrap affected parts in blankets.
In Case of Eye Contact:	Immediately flush your eyes with plenty of water for at least 15 minutes. Hold eyelids apart and flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.
In Case of Ingestion:	Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE FIGHTING MEASURES

Flash Pt:	Not applicable
Explosive Limits:	Lower level: 5% (Volume in air) Upper level: 15% (Volume in air)
Autoignition Pt:	537° C (998.6° F)
Suitable Extinguishing Media:	Use suitable fire extinguisher Carbon dioxide, regular dry chemical for large fires uses regular foam or flood with fine water spray.
Fire Fighting Instructions:	Personnel may have to wear approach-type protective suits and positive pressure self-contained breathing apparatus. Firefighters' turnout gear may be inadequate. Cylinders exposed to fire may rupture with violent force. Extinguish surrounding fire and keep cylinders cool by applying water from a maximum possible distance with a water spray. Flammable gases may spread from a spill after the fire is extinguished and be subject to re-ignition.
Flammable Properties and Hazards:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, Forms explosive mixtures in air and with oxidizing agents.

6. ACCIDENTAL RELEASE MEASURES

Protective Precautions, Protective Equipment and Emergency Procedures:	Use proper personal protective equipment as indicated in Section 8.
Environmental Precautions:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
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. For controlling larger flows, personnel may have to wear approach-type protective suits and self-contained breathing apparatus

7. HANDLING AND STORAGE

Precautions To Be Taken in Handling:	<p>Do not handle until all safety precautions have been read and understood. Avoid inhalation of vapor or mist. Keep away from heat, sparks and flames. Keep away from sources of ignition - No smoking. Use spark-proof tools and explosion proof equipment. Use in a closed system. Secure the cylinder to prevent it from falling or being knocked over. Leak check the lines and equipment. Have an emergency plan covering steps to be taken in the event of an accidental release.</p> <p>Wear leather safety gloves and safety shoes when handling cylinders. Wash hands thoroughly after handling. Protect cylinders from physical damage; do not drag, roll, slide or drop. While moving the cylinder, always keep in place removable valve cover. Never attempt to lift a cylinder with its cap; the cap is intended solely to protect the valve. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Never insert an object (e.g., wrench, screwdriver, pry bar) into cap openings; doing so may damage the valve and cause a leak. Use an adjustable strap wrench to remove over-tight or rusted caps. Slowly open the valve. If the valve is hard to open, discontinue use and contact your supplier. Never attempt to repair or modify container valves or safety relief devices. Replace valve outlet caps or plugs and container caps were supplied as soon as container is disconnected from equipment. Close the container valve after each use; keep closed even when empty. Never apply flame or localized heat directly to any part of the container. High temperatures may damage the container and could cause the pressure relief device to fail prematurely, venting the container contents. Handle empty containers with care because residual vapors are flammable. In use, may form flammable vapor-air mixture</p>
Precautions To Be Taken in Storing:	Cylinders should be stored and used in dry, well-ventilated areas away from sources of heat or ignition. Store away from oxidizers. Protect containers against damage. Do not store above 125F. All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere.
Other Precautions:	When handling a product under pressure, use piping and equipment adequately designed to withstand the pressures to be encountered. Never work on a pressurized system. Use a back flow preventive device in the piping. Gases can cause rapid suffocation because of oxygen deficiency; stored and used with adequate ventilation. If a leak occurs, close the container valve and blow down the system in a safe and environmentally correct manner in compliance with all international, federal/national, state/provincial, and local laws; then repair the leak. Never place a container 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. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

Protective Gloves:

Wear neoprene gloves during cylinder change out or wherever contact with product is possible.

Other Protective Clothing:

Wear metatarsal shoes for cylinder handling, and protective clothing where needed.

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 is recommended

Work/Hygienic/Maintenance Practices:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Do not eat, drink or smoke when using the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical States:	<input checked="" type="checkbox"/> Gas	<input type="checkbox"/> Liquid	<input type="checkbox"/> Solid
Appearance and Odor:	Colorless & Odorless Gas.		
Melting Point:	-183° C (-297.4° F)		
Boiling Point:	-161.5° C (-258.7° F)		
Autoignition Pt:	537° C (998.6° F)		
Flash Pt:	NOT applicable for gas		
Explosive Limits:	Lower level: 5% (Volume in air)	Upper level: 15% (Volume in air)	
Specific Gravity (Water = 1):	NA		
Density:	0.716 kg/m ³	at 0° C (32° F)	
Vapor Pressure (vs. Air or mm Hg):	0.042 bar at 760mmHg		
Vapor Density:	0.668 kg/m ³		
Evaporation Rate:	No data.		
Solubility in Water:	0.022 mg/ml at 25° C		
pH:	7		
Percent Volatile:	No data.		
Molecular Formula:	CH ₄		
Molar mass:	16.04 gm/mol		

10. STABILITY AND REACTIVITY

Reactivity:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, Forms explosive mixtures in air and with oxidizing agents.
Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Stable under recommended storage conditions.
Incompatibility Materials To Avoid:	Strong oxidizing agents, combustible materials, halogens
Hazardous Decomposition or Byproducts:	High temperatures and fire conditions can result in the formation of carbon monoxide and carbon dioxide, Forms explosive mixtures in air and with oxidizing agents.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
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.
Irritation or Corrosion:	No data available.
Chronic Toxicological Effects:	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.
Results of PBT and vPvB assessment:	No data available.
Persistence and Degradability:	Not expected.
Bio accumulative Potential:	Not expected.
Mobility in Soil:	No data available. (Because of its high volatility, the product is unlikely to cause ground or water pollution.)

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. Do not discharge into areas where there is a risk of forming an explosive mixture with air
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14. TRANSPORT INFORMATION

LAND TRANSPORT (US DOT):

DOT proper shipping name: Methane, compressed.
 DOT Hazard Class: 2.1 FLAMMABLE GAS
 Hazard no. (ADR): 23
 Tunnel restriction code: (B/D)
 DOT packaging non-bulk (49 CFR 173.xxx) 302

DOT packaging bulk (49 CFR 173.xxx) 302
 DOT packaging exceptions (49 CFR 173.xxx) 306

DOT quantity limitations passenger aircraft/rail (49 CFR 173.27) Forbidden

DOT quantity limitations cargo aircraft only (49 CFR 175.75) 150Kg

DOT vessel stowage other 40 - Stow "clear of living quarters"

UN/NA number: UN1971

Labels:



AIR TRANSPORT (ICAO/IATA):

ICAO/IATA shipping name: Methane, compressed
 Transport document description (IATA): UN UN1971 Methane, compressed, 2.1
 UN-No. (IATA): UN1971
 Class (IATA): 2.1 - Gases: Flammable

Labels:



Special precaution for user:

Other information

Passenger and cargo aircraft: Forbidden

Cargo airlift only: Allowed

SEA TRANSPORT

Transport document description (IMDG): UN UN1971 Methane, compressed, 2
 UN-No. (IMDG): UN1971

Labels:



Proper Shipping Name (IMDG): Methane, compressed

Class (IMDG): 2 - Gases

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)	Other US EPA or State Lists
74-82-8	Methane	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)	International Regulatory Lists
74-82-8	Methane	Canadian DSL: Yes; Canadian NDSL: No; Mexico INSQ: Yes - 1971; Australia ICS: Yes; New Zealand IOC: Yes; China IECSC: Yes; Japan ENCS: Yes - (2)-1; Korea ECL: Yes -KE-23181; Philippines ICCS: Yes; REACH: Yes - (R), (P); TH-TECI: Yes; TW: Yes;

16. OTHER INFORMATION

Revision Date:	07/19/2024
Additional Information About This Product:	No data available.
NFPA ratings	0 - Minimal hazard. 1 - Slight hazard. 2 - Moderate hazard. 3 - Serious hazard. 4 - Severe hazard.
Other Information:	Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out. Ensure adequate air ventilation. Ensure all national/local regulations are observed. Ensure equipment is adequately earthed. Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.
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