

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Code:** 00017  
**Product Name:** Compressed Natural Gas (CNG)

**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:** Liquified gas  
**Specific Target Organ Systemic Toxicity (STOT) - Single Exposure** Category 2



**GHS Signal Word:** **Danger**

**GHS Hazard Phrases:** H220 - Extremely flammable gas.  
 H280 - Contains gas under pressure; may explode if heated.  
 May cause damage to the central nervous and respiratory systems.

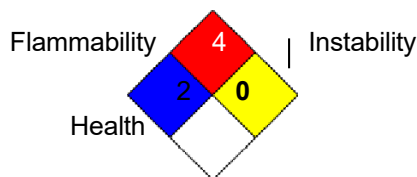
**GHS Precaution Phrases:** P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
 Do not breathe fumes/gas/mist/vapor's/spray. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.

**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.  
 IF exposed or concerned: Call a POISON CENTER or doctor/physician

**GHS Storage and Disposal Phrases:** Protect from sunlight. Store in a well-ventilated place. Store locked up.  
 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional Hazards Information:** Use a back flow preventative device in the piping.  
 Do not open the valve until connected to equipment prepared for use. Close valve after each use and when empty.

**Hazard Rating System:**



**NFPA:** Special Hazard

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

CAS #	Hazardous Components (Chemical Name)	Concentration
68410-63-9	Natural gas, dried	100
74-82-8	Methane	<90
74-84-0	Ethane	<1

**4. FIRST AID MEASURES****Emergency and First Aid Procedures:**

<b>In Case of Inhalation:</b>	Remove person to fresh air. If a person is not breathing, provide artificial respiration. If necessary, provide additional oxygen once breathing is restored if trained to do so. Seek medical attention immediately.
<b>In Case of Skin Contact:</b>	Remove contaminated clothing. In case of blistering, frostbite or freeze burns, seek immediate medical attention.
<b>In Case of Eye Contact:</b>	If irritation or redness develops from exposure, flush your eyes with clean water. In case of freezing burn, cover your eyes to protect from light. Seek immediate medical attention.
<b>In Case of Ingestion:</b>	The risk of ingestion is extremely low. However, if oral exposure occurs, seek immediate medical assistance.

**5. FIRE FIGHTING MEASURES**

<b>General Fire Hazards</b>	See Section 9 for Flammability Properties. Dangerous fire and explosion hazard when exposed to heat, sparks, or flame. Natural gas is lighter than air and may travel long distances to a point of ignition and flash back. Containers may explode in heat or fire. Liquefied Natural Gas (LNG) releases flammable gas at well below ambient temperatures and readily forms a flammable mixture with air.
<b>Hazardous Combustion Products</b>	Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke).
<b>Suitable Extinguishing Media:</b>	Any extinguisher suitable for Class B fires, dry chemical, firefighting foam, CO <sub>2</sub> , and other gaseous agents. However, fire should not be extinguished unless the flow of gas can be immediately stopped. Oxides of nitrogen and sulfur may also be formed.
<b>Unsuitable Extinguishing Media:</b>	None
<b>Fire Fighting Equipment/Instructions</b>	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 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 area particularly around ends 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 a venting safety device. Large fires typically require specially trained personnel and equipment to isolate and extinguish the fire. Firefighting activities that may result in potential exposure to high heat, smoke, or toxic by-products of combustion should require NIOSH approved pressure-demand self-contained breathing apparatus with full facepiece and full protective clothing.

**6. ACCIDENTAL RELEASE MEASURES**

<b>Recovery and Neutralization:</b>	Stop the source of the release, if safe to do so. The use of explosion-proof electrical equipment is recommended.
<b>Materials and Methods for Clean-Up:</b>	Do not flush down sewer or drainage systems. Do not touch spilled liquid (frostbite/freezing 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.
<b>Environmental Precautions:</b>	Do not flush down sewer or drainage systems.

<b>Emergency Measures:</b>	Evacuate nonessential personnel and secure all ignition sources. No road flares, smoking, or flames in hazard area. Consider wind direction, stay upwind and uphill, if possible. 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.
<b>Personal Precautions and Protective Equipment:</b>	Do not touch spilled liquid (frostbite/freeze burn hazard).
<b>Prevention of Secondary Hazards:</b>	None

## 7. HANDLING AND STORAGE

<b>Handling Procedures:</b>	Keep away from flame, sparks, and excessive temperatures. Bond and ground containers. Use only in well-ventilated areas. Sucking back of water into the container must be prevented. Purge air from system before introducing gas.
<b>Storage Procedures:</b>	Store only in approved containers. Bond and ground containers. Keep away from flame, sparks, excessive temperatures, and open flame. Keep containers closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.
<b>Incompatibilities:</b>	Keep away from strong oxidizers, ignition sources and heat.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CAS #	Partial Chemical Name	ACGIH:
74-82-8	<b>Methane</b>	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)
74-84-0	<b>Ethane</b>	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)

<b>Engineering Measures:</b>	Use adequate ventilation to keep gas and vapor concentrations of this product below occupational exposure and flammability limits, particularly in confined spaces. Use explosion-proof equipment and lighting.
<b>Personal Protective Equipment: Respiratory</b>	Use a NIOSH approved positive-pressure, supplied air respirator with escape bottle or self-contained breathing apparatus (SCBA) for gas concentrations above occupational exposure limits, for potential for 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.
<b>Personal Protective Equipment: Hands</b>	Use cold-impervious, insulating gloves where contact with pressurized gas may occur.
<b>Personal Protective Equipment: Eyes</b>	Where there is a possibility of pressurized gas contact, wear splash-proof safety goggles and face shield.
<b>Personal Protective Equipment: Skin and Body</b>	Where contact with pressurized gas may occur, wear apron and face shield.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Gas
<b>Appearance:</b>	Colorless
<b>Odor:</b>	Distinctive "natural gas"
<b>Ph:</b>	ND
<b>Vapor Pressure:</b>	40 atm at -187 °F (-86 °C)
<b>Vapor Density:</b>	0.6
<b>Boiling Point:</b>	-259°F (-162°C)
<b>Melting Point:</b>	-182 °C
<b>Solubility (H2O):</b>	26mg/l
<b>Specific Gravity:</b>	0.4 @ -263 °F (-64°C)
<b>Evaporation Rate:</b>	ND

VOC:	ND
Octanol/H <sub>2</sub> O Coeff.:	ND
Flash Point:	-299F (-184 deg C)
Flash Point Method:	Estimate
Upper Flammability Limit (UFL):	13-17
Limit (LFL):	3.8-6.5
Auto Ignition:	595 °C
Burning Rate:	ND

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	This is a stable material.
<b>Hazardous Reaction Potential:</b>	Will not occur.
<b>Conditions to Avoid:</b>	Keep away from strong oxidizers, ignition sources and heat.
<b>Incompatible Products:</b>	Strong oxidizers. Avoid contact with acids, aluminum chloride, chlorine, chlorine dioxide, halogens.
<b>Hazardous Decomposition Products:</b>	Carbon monoxide, carbon dioxide and non-combusted hydrocarbons (smoke)

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>A: General Product Information</b>	Methane and ethane, the main components of natural gas, are considered practically inert in terms of physiological effects. At high concentrations these materials act as simple asphyxiants and may cause death due to lack of oxygen.
<b>B: Component Analysis - LD50/LC50</b>	
<b>Methane (74-82-8)</b>	Inhalation LC50 Mouse 326 g/m <sup>3</sup> 2 h
<b>Ethane (74-84-0)</b>	Inhalation LC50 Rat 658 mg/L 4 h
<b>Potential Health Effects: Skin Corrosion Property/Stimulative Ness</b>	Vapors are not irritating. Direct contact to skin or mucous membranes with pressurized vapor may cause freezing 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.
<b>Potential Health Effects: Eye Critical Damage/ Stimulative Ness</b>	Vapors are not irritating. However, contact with liquid or cold vapor may cause frostbite, freeze burns, and permanent eye damage.
<b>Potential Health Effects: Ingestion</b>	Risk of ingestion is extremely unlikely.
<b>Potential Health Effects: Inhalation</b>	This product is 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 exposures to high concentrations. This product is a simple asphyxiant. In high concentrations it will displace oxygen from the breathing atmosphere, particularly in 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 when the atmospheric oxygen concentration is reduced to about 6% to 8% or less. WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.
<b>Respiratory Organs Sensitization/Skin Sensitization</b>	This product is not reported to have any skin sensitization effects.

<b>Generative Cell Mutagenicity</b>	This product is not reported to have any mutagenic effects.
<b>Carcinogenicity</b>	
<b>A: General Product Information</b>	This product is not reported to have any carcinogenic effects
<b>B: Component Carcinogenicity</b>	None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.
<b>Reproductive Toxicity</b>	This product is not reported to have any reproductive toxicity effects.
<b>Specified Target Organ General Toxicity: Single Exposure</b>	This product may cause damage to heart.
<b>Specified Target Organ General Toxicity: Repeated Exposure</b>	This product is not reported to have any specific target organ repeat effects.
<b>Aspiration Respiratory Organs Hazard</b>	This product is not reported to have any aspiration hazard effects.

## 12. ECOLOGICAL INFORMATION

<b>General Product Information:</b>	Keep out of sewers, drainage areas, and waterways. Report spills and releases, as applicable, under Federal and State regulations.
<b>Component Analysis</b>	- No ecotoxicity data are available for this product's components.
<b>Ecotoxicity - Aquatic Toxicity</b>	
<b>Persistence and Degradability:</b>	The hydrocarbons in this material are expected to be inherently biodegradable.
<b>Bioaccumulation</b>	Since the log Kow values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.

## 13. DISPOSAL CONSIDERATIONS

<b>Mobility in Soil:</b>	Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found. In air, these hydrocarbons undergo photodegradation by reaction with hydroxyl radicals with half-lives ranging from 3.2 days for n-butane to 7 days for propane.
<b>Waste Disposal Instructions</b>	See Section 7 for Handling Procedures. See Section 8 for Personal Protective Equipment recommendations.
<b>Disposal of Contaminated Containers or Packaging</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.

## 14. TRANSPORT INFORMATION

<b>LAND TRANSPORT (US DOT):</b>	
<b>DOT Proper Shipping name:</b>	Natural Gas, Compressed
<b>DOT Hazard Class:</b>	2.1
<b>UN/NA number:</b>	UN1971

**Labels:**



**Sea Transport:**  
**Transport document description (IMDG):**

<b>UN-No. (IMDG):</b>	UN1971
<b>Proper Shipping Name (IMDG):</b>	Natural Gas, compressed
<b>Label:</b>	2.1
<b>Air Transport:</b>	

**Transport document description (IATA):**

**UN-No. (IATA):** UN1971  
**Proper Shipping Name (IATA):** Natural Gas, compressed  
**Label:** 2.1

**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			
---------	---------	--	--	--

74-84-0	Ethane			
---------	--------	--	--	--

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
-------	--------------------------------------	-----------------------------

74-82-8	Methane	CA: No; MA: Yes; MN: Yes; NJ: Yes; PA: Yes; RI: No;
---------	---------	---

74-84-0	Ethane	CA: No; MA: Yes; MN: Yes; NJ: Yes; PA: Yes; RI: No;
---------	--------	---

CAS #	Hazardous Components (Chemical Name)	International Regulatory Lists
-------	--------------------------------------	--------------------------------

68410-63-9	Natural Gas, dried	
------------	--------------------	--

74-82-8	Methane	
---------	---------	--

74-84-0	Ethane	
---------	--------	--

**16. OTHER INFORMATION**

**Other Information:** 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, vendors assume the risk in their use of the material

**NFPA Ratings:**

- 0= Minimal Hazard
- 1= Slight Hazard
- 2= Moderate Hazard
- 3= Serious Hazard
- 4= Severe Hazard

**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.