



## SAFETY DATA SHEET

### **SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION**

**Material Name:** Natural Gas, Sweet, Odorized

**Chemical Name:** Methane

**CAS Number:** 8006-14-2, 74-82-8

**EINECS:** 200-812-7

**Product Information:** Primarily methane gas with other fossil fuels such as ethane, propane, butane and pentane, with trace amounts of organic mercaptan.

**Synonyms:** Raw Gas (odorized), Sweet Raw Gas (odorized), Sweet Natural Gas (odorized), Wellhead Natural Gas, Sweet (odorized)

#### **Company Identification**

Delta Natural Gas Company, Inc.

3617 Lexington Road

Winchester, KY 40391 USA

General Phone 859-744-6171

Emergency Phone 800-262-2012

Web Address: [www.deltagas.com](http://www.deltagas.com)

### **SECTION 2 – HAZARDS IDENTIFICATION**

#### **Emergency Overview**

Natural gas (odorized) is an extremely flammable gas, with a slight sulfur odor. Natural gas will displace oxygen if released into confined, non-ventilated spaces.

In compliance with the Globally Harmonized System, Delta identifies hazardous natural gas by the following:

#### **DANGER**

Extremely flammable gas

Contains gas under pressure

Gas may reduce oxygen in confined spaces



**Physical Form:** Gas

**Color:** None

**Odor:** None

**Hazards:** Flammable Gas, Simple Asphyxiant, Compressed Gas

**OSHA:** Flammable Gas, Simple Asphyxiant, Compressed Gas

**Primary Route of Entry:** Inhalation

**Medical Conditions Aggravated by Exposure:** Hypoxia

## **POTENTIAL HEALTH EFFECTS**

### **Inhalation:**

**Acute (Immediate):** May cause oxygen displacement in confined, poorly ventilated spaces, resulting in hypoxia and loss of consciousness.

**Chronic (Delayed):** May cause oxygen displacement in confined, poorly ventilated spaces, resulting in headache, fatigue, etc.

### **Skin:**

**Acute (Immediate):** Contents under pressure. May cause abrasions/contusions due to pressure.

**Chronic (Delayed):** No chronic effects expected.

### **Eye:**

**Acute (Immediate):** Contents under pressure. May cause abrasions/contusions due to pressure.

**Chronic (Delayed):** No chronic effects expected.

**Ingestion:** Not applicable.

**Carcinogenic Effects:** Not listed as a carcinogen by IARC or NTP.

See Section 12 for ecological information.

### **SECTION 3 – COMPOSITION/INFORMATION ON INGREDIENTS**

#### **Hazardous Components**

| <u>Chemical Name</u> | <u>CAS</u> | <u>%(volume)</u> | <u>UN;EINECS</u> |
|----------------------|------------|------------------|------------------|
| Methane              | 74-82-8    | 70 to 99         | UN1971;200-812-7 |
| Ethane               | 74-84-0    | 1 to 12          | UN1035;200-84-8  |
| Propane              | 74-98-6    | 0 to 8           | UN1978;200-87-9  |
| Butane               | 106-97-8   | 0 to 5           | UN1011;223-448-7 |
| Pentane              | 109-66-0   | 0 to 3           | UN1265;203-692-4 |
| Hexane               | 110-54-3   | 0 to 1           | UN1208;203-777-6 |
| Hydrogen             | 1333-74-0  | 0 to 0.5         | UN1049;215-605-7 |
| Hydrogen Sulfide     | 7783-06-4  | 0 to 4 PPM       | UN1053;213-977-3 |
| Carbon Dioxide       | 124-38-9   | 0 to 1.5         | UN1013;204-696-9 |
| tert-butyl mercaptan | 75-66-1    | 0 to trace       | UN2347;200-890-1 |
| isopropyl mercaptan  | 75-33-2    | 0 to trace       | UN2402;200-861-4 |
| propyl mercaptan     | 107-09-9   | 0 to trace       | UN2402;203-455-5 |
| sec-butyl mercaptan  | 513-53-1   | 0 to trace       | UN2347;208-165-2 |

NOTE: No threshold limit value (TLV) exists for natural gas. Because natural gas is a natural product, composition can vary greatly.

See Section 11 for toxicological information.

### **SECTION 4 – FIRST AID MEASURES**

**Inhalation:** If symptoms of hypoxia are present, move person to fresh air. Seek medical attention for discomfort.

**Skin:** If injury is due to pressure, treat abrasions/contusions symptomatically.

**Eyes:** If injury is due to pressure, treat abrasions/contusions symptomatically.

**Ingestion (swallowing):** This material is a gas under normal atmospheric conditions and ingestion is unlikely.

### **SECTION 5 – FIRE FIGHTING MEASURES**

#### **National Fire Protection Association (NFPA 704) Rating**

**Health:** 1 (Slight)

**Flammability:** 4 (Severe)

**Reactivity:** 0 (Minimal)

(0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

**DOT Classification:** Flammable Gas

**Flash Point:** Not Applicable

**Flammable Limits:** Gas in Air – lower 5% - upper 15%  
Range may vary depending upon mixture of constituent gas

**Extinguishing Media:** Dry Chemical, CO<sub>2</sub>, Halon. Dry chemical is the most effective.

**Special Fire Fighting Instructions:** Can be ignited by heat, sparks, flames, or other sources of ignition (static electricity, pilot lights, electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back or explode. Evacuate area, eliminate ignition sources, shut off source of gas supply and keep fire down wind. Cool surroundings with water mist. Hazard from re-ignition or explosion if flame extinguished without stopping flow of gas or eliminating sources of ignition.

**Unusual Fire and Explosion Hazard:** Autoignition temperature in air – 1000 - 1200°F (varies with gas mixture). Incomplete combustion yields carbon monoxide.

## **SECTION 6 – ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Flammable. Release of product will create a fire hazard and may form an explosive atmosphere. Avoid direct contact with released material. Evacuate area, eliminate sources of ignition and shut off source of gas supply. Allow for ventilation. Notify Delta and the fire department. Never use open flames to detect leaks. Wear appropriate protective equipment, including respiratory protection, as conditions warrant (see Section 8). See Sections 2 and 7 for additional information on hazards and precautionary measures.

**Environmental Precautions:** Appropriately trained firefighting personnel should utilize water spray in an attempt to disperse the gas or direct it to a safe location.

**Methods for Containment and Clean-Up:** Notify relevant authorities in accordance with all applicable regulations. Recommended measures are based on the most likely release scenarios for this material; however local conditions and regulations may influence or limit the choice of appropriate actions to be taken.

## **SECTION 7 – HANDLING AND STORAGE**

**Precautions for Safe Handling:** Keep away from ignition sources such as heat/sparks/open flames and no smoking. Utilize combustible gas monitoring systems when handling large volumes of natural gas in confined areas. Follow National Electric Code guidelines for installation of wiring and equipment. Use self-contained breathing equipment and safety lines when working in pits or enclosed areas which may contain natural gas.

**Conditions for Safe Storage of Gas Cylinders:** Keep containers tightly closed and properly labeled. Check atmosphere for oxygen content and flammability prior to entry. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces and all sources of ignition. Store only in approved containers. Post area “No Smoking or Open Flame”. Keep away from all incompatible material (see Section 10). Protect containers against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes. “Empty” containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Avoid exposing any part of a compressed gas cylinder to temperatures above 125°F (51.6°C). Gas cylinders should be stored outdoors or in well ventilated storerooms at no lower than ground level and should be quickly removable in an emergency.

## **SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION**

**Engineering Controls:** If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional engineering controls may be required.

**Skin/Hand Protection:** The use of skin protection is not normally required; however, good industrial hygiene practice suggests the use of gloves or other appropriate skin protection whenever working with chemicals.

**Eye/Face Protection:** The use of eye/face protection that meets or exceeds ANSI Z.87.1 is recommended when there is potential for pressure release of flying foreign objects.

**Respiratory Protection:** A NIOSH approved, self-contained breathing apparatus (SCBA) or equivalent operated in a pressure demand or other positive pressure mode should be used in situations of oxygen deficiency (oxygen content less than 19.5%), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

### **Exposure Limits:**

United States – American Conference of Governmental Industrial Hygienists (ACGIH)  
Natural gas, as methane, ethane, propane, butane, pentane – 8 hour TWA: 1000 ppm

## **SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES**

**Appearance:** Colorless

**Physical Form:** Gas

**Odor:** Slight Sulfur Odor

**Odor Threshold:** 0.5 lb. per MMCF

**pH:** Not Applicable

**Vapor Density (air=1):** 0.55 to 0.75

**Initial Boiling Point/Range:** -259°F / -162°C

**Melting/Freezing Point:** No Data  
**Solubility in Water:** Very Slight  
**Partition Coefficient (n-octanol/water) (Kow):** No Data  
**Specific Gravity (water=1):** No Data  
**Percent Volatile:** 100% (by volume)  
**Evaporation Rate (nBuAc=1):** No Data  
**Flash Point:** Not Applicable  
**Lower Explosive Limits (vol % in air):** 5.0  
**Upper Explosive Limits (vol % in air):** 15.0  
**Auto-Ignition Temperature:** No Data

## ***SECTION 10 – STABILITY AND REACTIVITY***

**Stability:** Stable under normal ambient and anticipated conditions of use.

**Conditions to Avoid:** Avoid all possible sources of ignition. Heat will increase pressure in the storage tank.

**Materials to Avoid (Incompatible Materials):** Avoid contact with acids, aluminum chloride, chlorine, chlorine dioxide, halogens and oxidizing agents.

**Hazardous Decomposition Products:** CO<sub>2</sub>, ppm amounts of SO<sub>2</sub> and NO<sub>x</sub>. CO if starved of oxygen during combustion.

**Hazardous Polymerization:** Not known to occur.

## ***SECTION 11 – TOXICOLOGICAL INFORMATION***

Information on Toxicological Effects of Substance/Mixture

**Aspiration Hazard:** Not applicable.

**Skin Corrosion/Irritation:** Not expected to be irritating. Contact with the liquefied or pressurized gas may cause frostbite (“cold” burn).

**Serious Eye Damage/Irritation:** Not expected to be irritating. Contact with the liquefied or pressurized gas may cause momentary freezing followed by swelling and eye damage.

**Signs and Symptoms:** Light hydrocarbon gases are simple asphyxiants and can cause anesthetic effects at high concentrations. Symptoms of overexposure, which are reversible if exposure is stopped, can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting. Continued exposure can lead to hypoxia (inadequate oxygen), rapid breathing, cyanosis (bluish discoloration of the skin), numbness of the extremities, unconsciousness and death.

**Skin Sensitization:** Skin contact is not anticipated.

**Respiratory Sensitization:** Not expected to be a respiratory sensitizer.

**Ingestion:** Risk of ingestion is extremely unlikely.

**Specific Target Organ Toxicity (Single Exposure):** Not expected to cause organ effects from single exposure.

**Specific Target Organ Toxicity (Repeated Exposure):** Not expected to cause organ effects from repeated exposure.

**Germ Cell Mutagenicity:** Not expected to cause heritable genetic effects.

**Reproductive Toxicity:** Not expected to cause reproductive toxicity.

**Other Comments:** High concentrations may reduce the amount of oxygen available for breathing, especially in confined spaces. Hypoxia (inadequate oxygen) during pregnancy may have adverse effects on the developing fetus.

## ***SECTION 12 – ECOLOGICAL INFORMATION***

**Toxicity:** Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment. Classification: no classified hazards.

**Persistence and Degradability:** The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process.

**Bioaccumulative Potential:** Since the log Kow values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.

**Mobility in Soil:** 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 and disperse rapidly into the atmosphere.

**Other Adverse Effects:** None anticipated.

## ***SECTION 13 – DISPOSAL CONSIDERATIONS***

This material is a gas and would not typically be managed as a waste.

## **SECTION 14 – TRANSPORTATION INFORMATION**

### **U.S. Department of Transportation (DOT)**

**Shipping Description:** UN1971, Natural Gas, compressed, 2.1

**Non-Bulk Package Marking:** Natural gas, compressed, UN1971

**Non-Bulk Package Labeling:** Flammable gas

**Bulk Package/Placard Marking:** Flammable gas / 1971

### **International Maritime Dangerous Goods (IMDG)**

Not applicable to Delta Natural Gas

### **International Civil Aviation Organization/International Air Transport Association (ICAO/IATA)**

Not applicable to Delta Natural Gas

## **SECTION 15 – REGULATORY INFORMATION**

The regulatory information is not intended to be comprehensive as other regulations and local restrictions may also be applicable to this material.

### **CERCLA/SARA – Section 311/312 (Title III Hazard Categories)**

**Acute Health:** No

**Chronic Health:** No

**Fire Hazard:** Yes

**Pressure Hazard:** Yes

**Reactive Hazard:** No

### **EPA (CERCLA) Reportable Quantity (in pounds):**

EPA's Petroleum Exclusion applies to this material - (CERCLA 101(14)).

**OSHA/MSHA Hazard Communication:** This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200 but is not listed by OSHA as a "Specifically Regulated Substance" in accordance with 29 CFR 1910.1001-1050.

### **WHMIS Hazard Class:**

A – Compressed Gas

B1 – Flammable Gas

D2A



**SECTION 16 – OTHER INFORMATION**

No additional information.

Original Preparation Date: 11/11/2013

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**DISCLAIMER OF EXPRESSED AND IMPLIED WARRANTIES**

The information in this document is believed to be correct as of the date issued. Exact composition, however, may vary in BTU and percentage components at various times and at various locations.

However, no warranty of merchantability, fitness for any particular purpose, or any other warranty is expressed or is to be implied regarding the accuracy or completeness of this information, the results to be obtained from the use of this information or the product, the safety of this product, or the hazards related to its use.

This information and product are furnished on the condition that the person receiving them shall make his own determination as to the suitability of the product for his particular purpose and on the condition that he assumes the risk of his use thereof.