

# Safety Data Sheet

## SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

### MATERIAL NAME: Natural Gas, Sweet

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.

SYNONYMS: Raw Gas, Sweet Raw Gas, Sweet Natural Gas, Wellhead Natural Gas, Sweet

### Company Identification

Enable Midstream Partners

One Leadership Square, Suite 950

North Tower

211 N Robinson

Oklahoma City, OK 73102

United States

GENERAL PHONE: 405-553-6950

EMERGENCY PHONE: (800) 522-8048 CHEMTREC: (800)424-9300

WEB ADDRESS: [www.enablemidstream.com](http://www.enablemidstream.com)

## SECTION 2 - HAZARDS IDENTIFICATION

### Emergency Overview

Natural Gas is an odorless, extremely flammable gas. Natural Gas will displace oxygen if released into confined, non-ventilated spaces.

### 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

| Chemical Name | CAS      | %(volume)   | UN;EINICS        |
|---------------|----------|-------------|------------------|
| Methane       | 74-82-8  | 97% TO 100% | UN1971;200-812-7 |
| Ethane        | 74-84-0  | 0% TO 3%    | UN1035;200-84-8  |
| Propane       | 74-98-6  | 0% TO 3%    | UN1978;200-87-9  |
| Butane        | 106-97-8 | 0% TO 3%    | UN1011;223-448-7 |
| Pentane       | 109-66-0 | 0% TO 3%    | UN1265;203-692-4 |

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**

### NFPA 704 Hazard Class

Health: 1 Flammability: 4 Instability: 0 (0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

**Unusual Fire & Explosion Hazards:** Flammable. Contents under pressure. This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/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. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. If container is not properly cooled, it can rupture in the heat of a fire. Drains can be plugged and valves made inoperable by the formation of ice if rapid evaporation of large quantities of the liquefied gas occurs. Do not allow run-off from fire fighting to enter drains or water courses – may cause explosion hazard in drains and may reignite.

Hazardous combustion/decomposition products, including hydrogen sulfide, may be released by this material when exposed to heat or fire. Use caution and wear protective clothing, including respiratory protection.

**Extinguishing Media:** Dry chemical or carbon dioxide is recommended. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces.

## **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

**Personal Precautions:** Flammable. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Keep all sources of ignition and hot metal surfaces away from spill/release if safe to do so. The use of explosion-proof electrical equipment is recommended. Beware of accumulation of gas in low areas or contained areas, where explosive concentrations may occur. Prevent from entering drains or any place where accumulation may occur. Ventilate area and allow to evaporate. Stay upwind and away from spill/release. Avoid direct contact with material. For large spillages, notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. 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:** Stop spill/release if it can be done safely. Water spray may be useful in minimizing or dispersing vapors. If spill occurs on water notify appropriate authorities and advise shipping of any hazard. Spills into or upon navigable waters, the contiguous zone, or adjoining shorelines that cause a sheen or discoloration on the surface of the water, may require notification of the National Response Center (phone number 800-424-8802).

**Methods for Containment and Clean-Up:** Notify relevant authorities in accordance with all applicable regulations. Recommended measures are based on the most likely spillage 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 flame – No smoking. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take precautionary measures against static discharge. Use good personal hygiene practices and wear appropriate personal protective equipment (see section 8). Contents under pressure. The use of explosion-proof electrical equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-70 and/or API RP 2003 for specific bonding/grounding requirements. Electrostatic charge may accumulate and create a hazardous condition when handling or processing this material. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146.

Mercury and other heavy metals may be present in trace quantities in crude oil, raw natural gas, and condensates. Production and processing of these materials can lead to "drop-out" of elemental mercury in enclosed vessels and pipe work, typically at the low point of any process equipment because of its density. Mercury may also occur in other process system deposits such as sludges, sands, scales, waxes, and filter media. Personnel engaged in work with equipment where mercury deposits might occur (confined space entry, sampling, opening drain valves, draining process lines, etc), may be exposed to a mercury hazard (see sections 3 and 8).

**Conditions for safe storage:** Keep container(s) 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 any incompatible material (see Section 10). Protect container(s) 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 125F(51.6C). 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 percent), unknown exposure concentrations, or situations that are immediately dangerous to life or health (IDLH).

A respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed whenever workplace conditions warrant a respirator's use.

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**

**Note:** Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1 atm). Data represent typical values and are not intended to be specifications.

**Appearance:** Colorless

**Physical Form:** Gas

**Odor:** none/slight

**Odor Threshold:** No data

**pH:** Not applicable

**Vapor Density (air=1):** 0.60

**Initial Boiling Point/Range:** -250 to -160 °F / -157 to -107 °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:** -306 °F / -188 °C

**Test Method:** (estimate)

**Lower Explosive Limits (vol % in air):** 5.0

**Upper Explosive Limits (vol % in air):** 17.0

**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:** Not anticipated under normal conditions of use.

**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.

**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 with half-lives ranging from 3.2 days for n-butane to 7 days for propane.

**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

**Packaging - References:** 49 CFR 173.306; 173.302; 173.302

**(Exceptions; Non-bulk; Bulk)**

**Emergency Response Guide:** 115

**Note: "Methane, compressed" may be substituted for "Natural gas, compressed"**

**The following alternate shipping description order may be used until January 1, 2013:**

**Proper Shipping name, Hazard Class or Division, (Subsidiary Hazard if any), UN or NA number, Packing Group**

**Other shipping description elements may be required for DOT compliance.**

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

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

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

**Labels:** Flammable gas

**Placards/Marking (Bulk):** Flammable gas / 1971

**Packaging - Non-Bulk:** P200

**EMS:** F-D, S-U

**Note: "Methane, compressed" may be substituted for "Natural gas, compressed"**

### **International Civil Aviation Org. / International Air Transport Assoc. (ICAO/IATA)**

**UN/ID #:** UN1971

**Proper Shipping Name:** Natural gas, compressed

**Hazard Class/Division:** 2.1

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

**Labels:** Flammable gas

**ERG Code:** 10L

**Note: "Methane, compressed" may be substituted for "Natural gas, compressed"**

## **SECTION 15 - REGULATORY INFORMATION**

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

**Acute Health:** Yes

**Chronic Health:** Yes

**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 by OSHA/MSHA to be a hazardous chemical and should be included in the employer's hazard communication program.

**Canada:**

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the Regulations.

**WHMIS Hazard Class:**

A - Compressed Gas  
B1 - Flammable Gases  
D2A

***SECTION 16 - OTHER INFORMATION***

PREPARATION DATE: 9/17/2012

LAST REVISION DATE: 9/17/2012

DISCLAIMER/STATEMENT OF LIABILITY: This I safety data sheet and the information it contains are offered to you in good faith as accurate. We have reviewed any information contained in this data sheet that we received from sources outside our company. We believe the information to be correct but cannot guarantee its accuracy or completeness. Health and safety precautions in this data sheet may not be adequate for all individuals and/or situations. It is the user's obligation to evaluate and use this product safely and to comply with all applicable laws and regulations