

Safety Data Sheet for Natural Gas

Prepared March 2018


Please note: retention of current Safety Data Sheets (SDS) is required by law. This SDS is also available electronically on our website: www.enbridgegas.com.

Section 1: Identification

Product Name:
Natural Gas
Synonyms:
Methane; CH₄; Fuel Gas
Product Use:
Fuel Gas
Restrictions on Use:
Not available.
Enbridge Companies
Enbridge Gas Distribution Inc.
500 Consumers Road
Emergency: 1-866-763-5427

Enbridge Gas Storage (Tecumseh)
3595 Tecumseh Rd
Mooretown, ON N0N 1M0
Emergency : 1-800-255-1431
Quebec: Gazifère Inc.
706, boulevard Gréber
Gatineau PQ J8V 3P8
Emergency: 1-866-771-8321
New Brunswick:
Enbridge Gas New Brunswick Inc.
440 Wilsey Rd., Suite 101
Fredericton, NB E3B 7G5
Emergency: 1-800-994-2762
Preparation date of SDS:
March 29, 2018

Section 2: Hazards Identification

GHS Classification of the substance:
Simple Asphyxiant - Simple Asphyxiants – Category 1;
A gas that is a simple asphyxiant.
Gases Under Pressure - Gases under pressure / Compressed gas
Flam Gas 1 - Flammable gases - Category 1
H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated
Label Elements:
Hazard Pictograms:

Signal Word: Danger
Hazard Statements:
H220 - Extremely flammable gas.

H280 - Contains gas under pressure; may explode if heated.
H380 - May displace oxygen and cause rapid suffocation.
Precautionary Statements:
P210 - Keep away from heat, sparks, open flames, hot surfaces. No smoking.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.
Disposal: Not applicable.
Hazards Not Otherwise Classified:
Not applicable.
Ingredients with Unknown Toxicity:
None.

Section 3: Composition/ Information of Hazardous Ingredients

Hazardous Ingredients:
Primarily methane gas with other fossil fuels such as ethane, propane, butane and pentane.
Approximate Concentration %:
95% methane, 3% other fossil fuels, 2% nitrogen

| Hazardous Ingredient(s) | CAS No. | % vol./vol. |
|-------------------------|-----------|-------------|
| Natural gas | 8006-14-2 | 100 |
| Methane | 74-82-8 | 95 |
| Nitrogen | 7727-37-9 | 0 - 2 |
| Ethane | 74-84-0 | 0 - 3 |
| Propane | 74-98-6 | 0 - 3 |
| Butane | 106-97-8 | 0 - 3 |
| Pentane | 109-66-0 | 0 - 3 |

Section 4: First Aid Measures

Inhalation:
Acute and delayed symptoms and effects: May displace oxygen and cause rapid suffocation. Central nervous system depression can occur if product is present in concentrations that will reduce the oxygen content of air below 18 % (vol). Symptoms may include headache, lightheadedness, drowsiness, disorientation, vomiting and seizures. Unconsciousness and death may occur with severe oxygen deprivation. May cause respiratory irritation. Signs/symptoms may include cough, sneezing, nasal

discharge, headache, hoarseness, and nose and throat pain.
Eye Contact:
If in eyes: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor.
Ingestion:
Not a normal route of exposure.
General Advice:
In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

Section 5: Fire-fighting measures

FLAMMABILITY AND EXPLOSION INFORMATION
Extremely flammable gas. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. **CAUTION:** Methane is lighter than air and will rise. Vapors may travel to source of ignition and flash back. DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED.
Means of Extinction:
Dry chemical, Carbon Dioxide, Halon
Caution: If a natural gas fire is extinguished and the flow of gas is not stopped, a highly explosive natural gas-air mixture can accumulate, creating a potentially

dangerous hazard if a new source of ignition is introduced.
Flash Point (°C) and Method:
Not applicable
Upper Explosive Limit:
15% gas in air (approximately)
Lower Explosive Limit:
4% gas in air (approximately)
Ignition Temperature (°C):
Ignition Temperature (°C): 538°C (1,000°F) (approximately)
Hazardous Combustion Products:
Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Sulphur Dioxide, Aldehydes
Explosion Data/Sensitivity:
Not applicable
Sensitivity to Static Discharge:
Yes

Section 6: Accidental Release Measures

Emergency Procedures:
As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements). Keep out of low areas. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded.
Personal Precautions:
Do not touch or walk through spilled material. Use personal protection recommended in Section 8.
Environmental Precautions:
Avoid release to the environment.

Methods for Containment:
Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak.
Methods for Clean-Up:
Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. **CAUTION:** When in contact with refrigerated/ cryogenic liquids, many materials become brittle and are likely to break without warning.
Other Information:
See Section 13 for disposal considerations.

Section 7: Handling and Storage

Handling:
Keep away from heat, sparks, open flames, and hot surfaces. No smoking. All equipment piping and handling must conform to all applicable legislation requirements.

Storage:
Store in a well-ventilated place. Protect from sunlight. Store away from incompatible materials. Store in either pressure vessels or underground well facilities. Storage must comply with all applicable legislation requirements.

Section 8: Exposure Controls/ Personal Protective Equipment

For substances listed in section 3, there are no established Exposure limits as per the following advisory agencies including: ACGIH, AIHA (WEEL), NIOSH (REL), OSHA (PEL), Ontario provincial government. All substances listed under section 3, are classified as Simple Asphyxiants, therefore it's important to monitor oxygen levels and explosive limits.

Exposure Controls:

Appropriate Engineering Controls, such as adequate ventilation and adequate venting of possible combustion products. Eyewash Stations. Spark proof or intrinsically safe equipment when dealing with potentially explosive atmosphere.

Personal Protective Equipment:

Protective goggles. Protective clothing. Respiratory protection such as self-contained breathing apparatus (SCBA) may be required in poorly ventilated areas, where oxygen levels are below 19.5%. Gas monitor should be used to monitor oxygen and LEL levels. Insulated gloves.



Materials for Protective Clothing:

Non-sparking, flame/fire retardant when in areas where potential flash fires may occur.

Hand Protection:

Insulated gloves may be required.

Eye Protection:

Wear safety glasses. Chemical goggles or face shield if close to gas release.

Respiratory Protection:

Lack of oxygen is the primary concern, whenever there is a risk of reduced oxygen levels below 19.5%. Therefore ensure sufficient engineering controls, mechanical ventilation are in place to control exposure. SCBA may be required when oxygen levels are below 19.5%. Gas monitor should be used.

Thermal Hazard Protection:

Wear suitable protective clothing as required.

Other Information:

Appropriate hearing protection, goggles and clothing should be utilized when potential for direct contact with high pressure gas release exists. When using, do not eat, drink or smoke.

Section 9: Physical and Chemical Properties

Physical State:

Gas

Odour and Appearance:

Natural gas in its pure state is colourless and odourless. An odourant, consisting of Mercaptan is added before natural gas enters a gas utility's distribution system. The odour is quite offensive like rotten eggs.

Odour Threshold (ppm):

Less than 10,000 ppm in air

Specific Gravity:

Not applicable

Vapour Pressure:

Not applicable

Vapour Density (Air = 1):

0.56 to 0.59

Evaporation Rate:

Not applicable

Boiling Point (°C):

-161.5°C (as methane)

Freezing Point (°C):

-182.6°C (as methane)

pH:

Not applicable

Coefficient of Water/Oil Distribution:

Not applicable

Section 10: Stability and Reactivity

Chemical Stability:

Yes

Incompatibility with other substances:

Readily forms explosive mixtures with air or oxygen. It will also burn or explode in the presence of chlorine, bromine pentafluoride, oxygen difluoride and nitrogen trifluoride. It will spontaneously ignite in the presence of chlorine dioxide.

Reactivity and under what conditions:

When natural gas mixes with appropriate amounts of

oxidizing agents, including air and oxygen, in the presence of an ignition source, an uncontrolled explosive reaction can occur.

Hazardous Decomposition Products:

Combustion releases carbon dioxide, trace amounts of sulphur oxides, and nitrogen oxides. A lack of oxygen during combustion can produce carbon monoxide and other toxic and flammable products.

Hazardous Polymerization:

No

Section 11: Toxicological Information

Route of Entry:

Inhalation

Effects of Acute Exposure to Product:

Acts as a simple asphyxiant by displacing oxygen in the air. Symptoms of over exposure include rapid respiration, nausea, disorientation, and loss of consciousness.

Irritancy:

None reported

Exposure Limits:

Based on

oxygen displacement

Sensitization:

None reported

Synergistic Materials:

Other Asphyxiants

Effects of Chronic Exposure to Product:

None reported

Other Effects:

None reported with respect to mutagenicity, carcinogenicity, reproductive toxicity, teratogenicity.

Section 12: Ecological Information

Ecotoxicity:

Not available.

Persistence / Degradability:

Not available.

Bioaccumulation / Accumulation:

Not available.

Mobility in Environment:

Not available.

Other Adverse Effects:

Not available.

Section 13: Disposal Considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

Section 14: Transportation Information

Canada Transportation of Dangerous Goods (TDG)

Shipping Name: Natural Gas, Compressed with high methane content

Class: 2.1

UN Number: UN1971

Packing Group:

Not applicable

Placard/label:



U.S. Department of Transportation (DOT)

Proper Shipping Name:

Methane, compressed or Natural gas, compressed (with high methane content)

Class: 2.1

UN Number: UN1971

Packing Group: NDA

Label Code:



Section 15: Regulatory Information

Natural Gas (8006-14-2)

Listed on the Canadian CEPA DSL (Domestic Substances List)

Hazardous Products Act and Controlled Products Regulations:

WHMIS 1988 Classification

Class B Division 1 - Flammable Gas
Class A - Compressed Gas



Hazardous Products Act and Hazardous Products Regulation:

WHMIS 2015 with GHS Classification

Simple Asphyxiant

Flammable Gas – Category 1
Gas Under Pressure



US Federal Regulations:

Natural Gas (8006-14-2)

Listed on the US EPA TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes

Fire Hazard

Immediate (acute) health hazard
Sudden release of pressure hazard
This product is a hazardous chemical, as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Section 16: Preparation of SDS

Additional Information and Comments:

The gas flammability hazard should be considered the primary risk factor. Avoid all possible sources of accidental ignition

Prepared By: Engineering
Materials Evaluation Centre
Enbridge Gas Distribution Inc.
(905) 927-3236

Preparation Date:

March 29, 2018

For additional copies:

Visit www.enbridgegas.com
or call our Environment,
Health and Safety Department
at (905) 927-3095.

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