

Material Safety Data Sheet for Natural Gas



Prepared May 2009

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

Section 1: Product Information

Material Name/Identifier: Natural Gas

Supplier: Enbridge companies:

Ontario:

Enbridge Gas Distribution Inc.
500 Consumers Road
North York, ON M2J 1P8

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

Manufacturer: Natural gas is a naturally occurring product.

Chemical Name: Methane

Chemical Family: Simple hydrocarbons

Product Use: Primarily a heating fuel for residential, commercial and industrial purposes.

Trade Name and Synonyms: Natural Gas

Regulatory Classification:

WHMIS:

Class A – Compressed Gas

Class B – Division 1 – Flammable Gas

TDG: Shipping Name – Natural Gas, compressed (with high methane content)

UN/PIN 1971

Class 2.1

Section 2: 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

C.A.S. Number: 8006-14-2

Exposure Limits: Natural gas is not toxic, however; if gas escapes in a confined area, it may displace the air and its oxygen from the space. Lack of oxygen will asphyxiate anyone remaining in that gas filled space.

LD50/LC50 Specify Species and Route:

Due to oxygen displacement

Section 3: Physical Data

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 4: Fire and Explosion Hazards

Flammable – If Yes, under which conditions?

Yes. Extreme fire hazard when mixed with appropriate concentrations of air or oxygen in the presence of an ignition source.

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):

538°C (1,000°F) (approximately)

Hazardous Combustion Products: Carbon Monoxide, Carbon Dioxide, Nitrogen Oxides, Sulfur Dioxide, Aldehydes

Explosion Data/Sensitivity: Not applicable

Sensitivity to Static Discharge: Yes

Material Safety Data Sheet for Natural Gas



Prepared May 2009

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

Section 5: Reactivity Data

Chemical Stability: Yes

Incompatibility with other substances.

If so, which ones?

Yes. 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 sulfur oxides, and nitrogen oxides. A lack of oxygen during combustion can produce carbon monoxide and other toxic and flammable products.

Hazardous Polymerization: No

Section 6: Toxicological Properties

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 7: Preventive Measures

Personal Protective Equipment: CSA/ASA

Safety Equipment must be available/worn as required to protect ears, eyes, feet, hands, head, remaining body area. Work around/with natural gas must be performed by individuals qualified to work with natural gas.

Gloves (Specify): Not normally required.

Respiratory (Specify): Only required for oxygen depletion concerns. Positive pressure, self-contained breathing apparatus for emergency use when ventilation is inadequate.

Eye (Specify): Safety goggles not normally required.

Footwear (Specify): Refer to **Personal Protective Equipment**

Clothing (Specify): Non-sparking, flame-retardant when in areas where potential flash fires may occur.

Other (Specify): Appropriate hearing protection, goggles and clothing should be utilized when potential for direct contact with a high pressure gas release exists.

Engineering Controls (Specify): Use spark-proof or intrinsically safe equipment when dealing with a potentially explosive atmosphere. Adequate ventilation and adequate venting of possible combustion products are required.

Leak and Spill Procedures: Immediately contact your local Enbridge Gas Distribution office. Evacuate as necessary. Do not activate any source of ignition such as electrical switches, vehicles, telephones, cellular phones, two-way radios or door bells. Eliminate ignition sources such as open flame or sparks. Ventilate buildings and structures containing natural gas.

Waste Disposal: Not normally required.

Handling Procedures and Equipment: All equipment piping and handling must conform to all applicable legislation requirements.

Storage Requirements: Store in either pressure vessels or under ground well facilities. Storage must comply with all applicable legislation requirements.

Special Shipping Information: Natural gas, when transported by a pipeline that is governed by the law of a province, is exempt from the Transportation of Dangerous Goods Act.

Section 8: First Aid Measures

First Aid Procedures: Remove victim from contaminated area to fresh air. Perform artificial respiration if necessary, and seek medical assistance.

Section 9: Preparation of MSDS

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.
(416) 495-5636
May 2009

For additional copies:

Visit www.enbridgegas.com or call our Environment, Health and Safety Department at (416) 495-5514.

Caution: Natural gas is a complex mixture such that constituent composition may vary. The information contained herein is based on the information available at the indicated date of preparation but no warranty, expressed or implied is made. Further, the information contained herein relates only to this product or material and may not be valid when used in combination with any other product or material in any process. If the product is not to be used for a purpose or under conditions which are normal or reasonably foreseeable, this information cannot be relied upon as complete or applicable. For greater certainty of information, specific uses of the product must be reviewed with the supplier. This MSDS is for the use of the Enbridge Companies, their customers and their employees. Any further distribution of this MSDS, without the written consent of Enbridge Gas Distribution Inc., is prohibited.

 FM.095.39 (REV. MAY/09)
Ce formulaire est aussi disponible en français.