



NATURAL GAS

Telephone: 902-466-2003

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MATERIAL SAFETY DATA SHEET

I. Material Identification

Product Name: Natural Gas (odorized)
WHMIS Classification: Class A – Compressed Gas
Class B – Flammable and Combustible Material
Division 1: Flammable Gas

II. Composition

<u>Component</u>	<u>Percentage Volume</u>	<u>Allowable Exposure Limit (8 Hours)</u>	<u>CAS #</u>
Methane	>70	Not Established Asphyxiant	74-82-8
Ethane	<9	Not Established Asphyxiant	74-84-0
Propane	<2	1,000 ppm Asphyxiant	74-98-6
Heavier Hydrocarbons	<2	N/A	106-97-8
Hydrogen Sulfide	<0.001	20 ppm 10 ppm	7783-06-4
Carbon Dioxide	<3	10,000 ppm 5,000 ppm	124-38-9
Nitrogen	<2	Not Established Asphyxiant	7727-37-9
Mercaptan	<0.1	Not Established	N/A

III. Physical Data

Appearance and Odor: Colorless gas. A distinctive, disagreeable “Natural Gas” type odor.

Vapor Pressure: 760 mmHg @ -161°C.

Vapor Density: 0.55 - 0.61 @ 0°C.

Boiling Point: -162°C @ 1 atm.

Solubility: Negligible, <0.1%.

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IV. Reactivity Data

Stability:	Stable under normal storage and use. Burning can be started easily.
Conditions to avoid:	Excessive heat, sources of ignition, rapid escape of vapor may generate static charge, causing ignition.
Materials to avoid:	Strong oxidizing agents (peroxides, chlorine, fluorine), chlorine dioxide, liquid oxygen.

Hazardous decomposition products:	CO ₂ , trace amounts of oxides of sulfur and nitrogen (SO ₂ and NO _x). CO if starved of oxygen during combustion.
Hazardous polymerization:	Will not occur.

V. Fire and Explosion Data

Flashpoint:	-306°F (-188°C)
Upper Explosion Limit:	15.0%
Lower Explosion Limit:	5.0%
Auto-ignition Temperature:	540°C
Flammability Classification:	Compressed gas. Extremely flammable.
Fire and Explosion Hazard:	Dangerous fire hazard when exposed to heat or flame. Easily ignitable by flame or spark. Vapors are lighter than air and may travel considerable distances to sources of ignition and flash back. Do not drill, cut or weld empty containers. Evacuate area if pressure relief valves activate or if containers are discolored due to flames on tanks.
Extinguishing Media:	Stop flow of gas if possible; if not, allow to burn. Agents approved for Class B hazards (e.g. dry chemical, carbon dioxide, halon, foam, steam) or water fog.
Unusual Fire and Explosion Hazards:	Could be potentially hazardous if uncontrolled in a confined space. Extremely flammable vapor/air mixtures form. Extinguishment of fire before source of vapor is shut off can create an explosive mixture in air.
Fire Fighting Procedures:	Use full protective equipment and self-contained breathing apparatus. Use water fog to cool fire-exposed containers and as a protective screen. Isolate all sources of ignition. Cool bulk containers with remote hose stations. If feasible, shut flow of gas. Do not extinguish flame until gas flow is shut. Use gas detectors in confined spaces. Evacuate area if cooling of containers is impossible.
Precautions: Hazardous Combustion	Keep away from sources of ignition (e.g. heat and open flames). Burning can produce carbon monoxide and/or carbon dioxide and

Products: other harmful products.

VI. Health Hazard Information

Toxicity Data: Simple asphyxiant. Estimate LC₅₀ (human): tolerance limit 1,000 ppm.

Potential Health Effects

Skin and Eyes: Since natural gas is a gas under normal storage pressure and pipeline pressures, liquid contact is not likely.

Inhalation: Natural gas may displace oxygen. Lack of oxygen can cause headaches, dizziness, drowsiness, and nausea, and may lead to unconsciousness. Narcotic at high concentrations. Exposure to low concentrations of hydrogen sulfide (under 20 ppm) may develop headaches, eye disorders, and chronic bronchitis.

Ingestion: Ingestion is not likely. No significant health hazards identified.

VII. Exposure Controls/Personal Protection

Eye: Chemical splash goggles, safety glasses, or face shield if possible contact with liquefied gas.

Skin: None required.

Inhalation: Use with adequate ventilation. If ventilation is inadequate, use self-contained breathing apparatus.

Engineering Controls: Control airborne concentrations below the exposure guidelines.

VIII. First Aid Measures

Eye: Flush with plenty of water - 15 minutes. Physician assessment if eyes are inflamed.

Skin: Remove contaminated clothing - launder before use. Wash exposed skin with soap and water.

Inhalation: If worker is overcome, rescuer must wear self-contained breathing apparatus to remove worker to uncontaminated area (fresh air). Perform artificial respiration if not breathing. Give oxygen if breathing is difficult. Get immediate medical attention.

Ingestion: Not applicable.

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IX. Handling and Storage

Handling: Handle as extremely flammable gas. Do not cut, puncture, or weld on or near this container. Ground and bond all lines and equipment to avoid static accumulation.

Storage: Outside storage is recommended. Store in a cool, dry, well-ventilated area. Store away from heat, ignition sources, and open flame in accordance with applicable regulations.

X. Accidental Release Measures

Steps to be taken if material is released or spilled:

- Evacuate personnel.
- Avoid contact.
- Use self-contained breathing apparatus.
- Remove or shut off all sources of ignition, such as flame or electrical spark.
- Remain up wind.
- Increase ventilation if possible.
- Shut off source of gas supply.
- Wear respirator and spray with water to disperse vapors.
- Constant monitoring for explosion hazard is required.

Waste Disposal Method:

- Vent vapor at a safe location.
- Ensure dissipation of gas below the lower explosive limit.
- Incinerate waste gas by laying pipeline to furnace (by qualified personnel only).
- Consult ordinances for compliance.

XI. Transportation

Shipping Name:	Natural Gas
Hazard Classification:	2.1
UN Number:	UN1971
Packing Group:	X
CANUTEC Transport Emergency No.:	(613) 996-6666