SAFETY DATA SHEET
NATURAL GAS (GASEOUS STATE)

Product Information

Name of product	Natural gas (gaseous state)
Commercial name	Natural gas CASE No.: 8006-14-2
Classification	WHMIS: Compressed gas (Class A), Flammable gas (Class B1) T.D.G.: ID number UN: 1971 Primary classification 2.1 Flammable gas

Chemical family	Methane, CH_4, elementary hydrocarbon
Use of product	Fuel or fuel supply for various processes
Supplier	**Gaz Métro** 1717 du Havre Montréal (Québec) Canada H2K 2X3 Telephone: 1 800 361-0564 Fax: 514 598-3144 **Emergency: 911** www.gazmetro.com

What to do in case of a gas leak

Measures to take	→ **Eliminate all sources of ignition** → **Make sure there is as much ventilation as possible** → **Call 911** → **Call 1 800 361-8003 if the 911 service is not available in your area**

Hazardous components

Chemical name	% per volume	CASE #	Exposure value
Methane	95.4	74-82-8	Simple asphyxiant
Ethane	1.8	74-84-0	Simple asphyxiant
Nitrogen	1.9	7727-37-9	Simple asphyxiant
Carbon dioxide (CO_2)	0.7	124-38-9	TWA 5,000 ppm or 9,000 mg/m^3
Other elementary hydrocarbons	0.2		

Physical properties

Physical state	Gas
Odour and appearance	Colourless, odourless, gas that contains an odorant (mercaptan) to help detect leaks (rotten egg smell)
Odour threshold	Less than 10,000 ppm in air
Vapour density at 15 °C	0.58 (air = 1)
Boiling point	-161.4 °C
Freezing point	-187 to -182 °C (estimate)
Specific gravity at 162 °C	0.44 (H_2O = 1) 1.51 (air = 1)

Solubility in water	0.0023 g/100 ml
% of volatile substances per volume	100%
Molecular weight	16.7
Vapour pressure	N/A
Evaporation rate	N/A
pH	N/A
Percentage distribution (water/oil)	N/A

Chemical reactivity

Chemical stability	Natural gas is stable
Reactivity condition(s)	Avoid contact with incompatible substances

Incompatibility with other substances	Natural gas may burn or explode in a confined space when mixed with strong oxidizing agents (peroxide, chlorine, chlorine dioxide, liquid oxygen)
Hazardous decomposition products	Carbon compounds

Fire and explosion hazards

Flash point	-188 °C
Lower explosive limit	4.9%
Auto ignition temperature	538 °C

Flash point method	N/A
Sensitivity to mechanical impact	None
Extinguishing methods	Dry chemical powder Carbon dioxide

Upper explosive limit	14.9%
Sensitivity to electrostatic charge	Yes
Hazardous combustion products	Carbon compounds

Fire and explosion hazards	→ **Flammable if exposed to any source of ignition** → **Natural gas is lighter than air and disperses into the atmosphere** → **Natural gas will not burn or explode if there is not enough air, or if there is too much** → **Evacuate the area if the safety valves are activated** → **There is a risk of re-ignition or explosion if the flame is extinguished before stopping the flow of natural gas and/or if the site of the incident is not cooled and the cause of the fire not eliminated**
Situation to be avoided	**When in an appropriate mixture, natural gas may ignite if subject to a static electricity charge**
Extinguishing agents	**Dry powder, carbon dioxide (CO_2) for small fires; halon or acceptable equivalent**
Fire-fighting methods	→ **Wear full protective gear and self-contained breathing apparatus** → **Use water fog to cool fire-exposed containers in order to form a protective screen and disperse vapours** → **Isolate all sources of ignition** → **If possible, stop the gas leak** → **Do not extinguish the flame until the flow of natural gas has been stopped**
Hazardous combustion product	**Carbon monoxide (CO) if the natural gas is not completely burned**

Toxicological properties

Toxicity	Simple asphyxiant

Effects of acute exposure	
Inhalation	→ **By deplacing air, natural gas acts as an asphyxiant** → **The replacement of air by natural gas may cause headaches, diminished faculties, errors in judgement, increasing fatigue and impaired coordination, leading to convulsions, coma and death** → **A narcotic at high concentrations**
Contact with the skin and eyes	N/A
Ingestion	N/A

Effects of chronic exposure	
Inhalation	N/A
Contact with the skin and eyes	N/A
Ingestion	N/A
Sensitivity to product	N/A
LD50	N/A
LC50	N/A
Carcinogenicity, teratogenicity, mutagenicity and toxic effects on reproduction	None known

Preventive measures

Ventilation	General ventilation. Use an explosion-proof mechanical ventilator
Respiratory protection	In general, no protection is needed if there is sufficient oxygen Use self-contained breathing apparatus in case of an emergency
Protective gloves	Gloves are not needed under normal conditions
Protective eyewear	Wear safety glasses or a face shield if there is a risk of contact with pressurized natural gas
Other protective clothing	Not needed under normal conditions
Intervention in case of a leak or spill	→ Stop the leak and/or contain the spill → Keep away from sources of heat and ignition → Ventilate the area
Disposal of hazardous waste	Comply with municipal, provincial and federal regulations
Handling and storage	Follow normal safety practices for handling and storage
Special information	This product must be used according to internal standards
Transportation of hazardous materials	UN No.1971
Shipping name	Flammable gas
Classification	2.1 (Flammable gas)

Emergency measures and first aid

Inhalation	→ **Move the victim to the fresh air** → **Practise CPR if needed** → **A medical examination may be obligatory under certain circumstances** → **Give oxygen if possible**
Ingestion	N/A

Note to physician	→ No specific treatment is indicated → Give care appropriate to the condition of the patient
Contact with the skin and eyes	N/A

Preparation of the Safety Data Sheet

Additional information and comments: The safety data sheet on natural gas is available on the Gaz Métro Internet site at www.gazmetro.com.
Click on the tab *Natural Gas* under the heading *About Gaz Métro*.

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