

TO: Steve Busa *SMB-*

FROM: Tom Corbett  
Niagara Mohawk  
460-1108

DATE: March 23, 1994  
8:00AM  
Telecom

SUBJECT: Chemical Make-up of Natural Gas

96%	Methane
2%	Ethane
.4%	Propane
.6%	Isobutane
	Butane
	Pentane
	Oxygen
.4%	Nitrogen
.6%	Carbon Dioxide

Odorant - Mercaptan

Mercaptan is non-toxic and has a sulfur/rotten egg smell

THE UNIVERSITY OF THE STATE OF NEW YORK  
NEW YORK STATE EDUCATION DEPARTMENT  
Division of Educational Facilities and Management Services  
Health and Safety Unit  
Albany, New York 12230

TOXIC SUBSTANCE  
INFORMATION AND TRAINING DATA SHEET

Name(s) of the Toxic Substance

Generic: Methane  
Chemical: Methyl Hydride; CAS 74-82-2  
Trade: \_\_\_\_\_  
Common: Marsh gas, Sewer gas, Fire damp, Natural gas  
Manufacturer's Name: \_\_\_\_\_

Location

Location of Use: \_\_\_\_\_  
Location of Storage: \_\_\_\_\_

Properties

Appearance and Color: Colorless gas, may be a liquid under pressure  
Odor: None Minimum Detectable by Odor: \_\_\_\_\_  
Boiling Point (°F): \_\_\_\_\_ Melting Point (°F): \_\_\_\_\_  
Behavior in Water: Slightly soluble  
Evaporation: \_\_\_\_\_

Reactivity

Stability: (Stable) \_\_\_\_\_ (Unstable) X  
Conditions to Avoid: Contact with flame or spark  
Materials to Avoid: Bromine Pentafluoride, Chlorine Dioxide, Nitrogen Trifluoride,  
Liquid Oxygen and Oxygen Difluoride

Flammability and Explosiveness

Flash Point and Method: \_\_\_\_\_  
Autoignition Temperature: \_\_\_\_\_  
Explosive Limits: (Upper) 15% (Lower) 5.3%  
Extinguisher(s): Stop flow of gas. Use dry chemical or carbon dioxide  
Special Fire-Fighting Procedures: \_\_\_\_\_  
Unusual Fire-Fighting and Explosion Hazards: \_\_\_\_\_

Hazardous Levels

OSHA: Average Eight-Hour Exposure Limit: NA ppm (mg/m<sup>3</sup>) (Not established)  
New York State Health Department: NA ppm (mg/m<sup>3</sup>) " "  
NIOSH Recommended Limit: NA ppm (mg/m<sup>3</sup>) " "

(Continued on reverse side)

Symptoms of Exposure at Hazardous Levels

Acute Exposure

Inhalation: \_\_\_\_\_  
\_\_\_\_\_  
Ingestion: \_\_\_\_\_  
\_\_\_\_\_  
Skin: \_\_\_\_\_  
\_\_\_\_\_  
Eyes: \_\_\_\_\_  
\_\_\_\_\_

Chronic Exposure

Inhalation: \_\_\_\_\_  
\_\_\_\_\_  
Ingestion: \_\_\_\_\_  
\_\_\_\_\_  
Skin: \_\_\_\_\_  
\_\_\_\_\_  
Eyes: \_\_\_\_\_  
\_\_\_\_\_

Effects of Acute and Chronic Exposure at Hazardous Levels

Acute Exposure

Inhalation: Dizziness, difficult breathing, bluish skin color, loss of consciousness  
Ingestion: Liquid = freeze burns of mouth and throat  
Skin: Liquid: Freeze burns  
\_\_\_\_\_  
Eyes: Liquid: Freeze burns  
\_\_\_\_\_

Chronic Exposure

Inhalation: \_\_\_\_\_  
\_\_\_\_\_  
Ingestion: \_\_\_\_\_  
\_\_\_\_\_  
Skin: \_\_\_\_\_  
\_\_\_\_\_  
Eyes: \_\_\_\_\_  
\_\_\_\_\_

Emergency Treatment

Inhalation: Move to fresh air; give artificial respiration or oxygen; get medical help  
Skin: Wash with plenty of water; get medical help  
\_\_\_\_\_

Ingestion: Get medical help  
\_\_\_\_\_  
Eyes: Wash with plenty of water for 15 minutes; get medical help  
\_\_\_\_\_

Conditions for Safe Use and Exposure

Storage and Use: Protect against physical damage; direct sunlight. Store outdoors preferably, or in a cool, well-ventilated area away from oxidizing agents.

Protective Measures: Local exhaust ventilation. Sinks, showers and eyewash stations should be available.

Protective Equipment: Sinks, showers and eyewash stations should be readily available.

Special Handling Instructions: Self-contained breathing apparatus or supplied air respirator.

Procedures for Clean-Up

Spills and Leaks: Put on protective clothing and equipment. Maintain concentration of gas below explosive limits by forced ventilation. Remove tank to open area. Bleed off slowly into atmosphere

Disposal: \_\_\_\_\_  
\_\_\_\_\_

Notes

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date Issued: \_\_\_\_\_

Listed in 1910, Subpart Z: YES \_\_\_ NO X

POISINDEX(R) SUBSTANCE IDENTIFICATION

NATURAL GAS (GENERAL FORMULATION)

AMERICAN NATURAL GAS IS A MIXTURE OF GASES CONTAINING:

METHANE APPROXIMATELY 85%

ETHANE APPROXIMATELY 9%

PROPANE APPROXIMATELY 3%

NITROGEN APPROXIMATELY 2%

BUTANE APPROXIMATELY 1%

NOTE:

NATURAL GAS CONTAINS NO CARBON MONOXIDE UNLESS CONTAMINATED, HOWEVER ANOXIA MAY OCCUR.

CARBON MONOXIDE IS FORMED WHENEVER CARBONACEOUS MATERIAL IS BURNED WITH INSUFFICIENT OXYGEN.

EXHAUST OR FUEL GASES MAY CONTAIN CORROSIVE OXIDES OF NITROGEN AND SULFUR.

METHANE IS A SIMPLE ASPHYXIAN AND IN HIGH CONCENTRATIONS CAUSES NARCOSIS.

Choose toxicologic management by its number

1. ASPHYXIANTS, SIMPLE

Enter Command:

F1 HELP F9 Previous Subs.  
F2 Main Menu F10 Next Substance  
F3 New Substance Esc Last Menu

Product Reference: 2297326 04/75

F4 Print (c)1974-94 Micromedex

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POISINDEX(R) SUBSTANCE IDENTIFICATION

MERCAPTAN

SYNONYMS:

UN 2257  
THIOL  
MERCAPTAN  
THIOLS

NOTE:

A GROUP OF ORGANIC COMPOUNDS CONTAINING AN SH GROUP.

THIOLS ARE CHARACTERIZED BY THEIR STRONG AND REPULSIVE ODORS.

REFERENCE: HAWLEY GG: THE CONDENSED CHEMICAL DICTIONARY, 10TH ED. VAN  
NOSTRAND REINHOLD COMPANY, SAN FRANCISCO, 1981.

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