

2. MSDS of Natural Gas

1. Chemical Identified	Safety Data Sheet		
Chemical Name: Natural Gas	Chemical Classification	2	
Synonyms: Natural Gas	Trade Name: Natural Gas		
Formula: Mixture of Hydrocarbons: Methane (CH4), Ethane (C2H6), CO2 & N2	C.A.S. No. 74-82-8	U.N. No. 1: UN 1971	
Shipping Name: Natural Gas			
Codes/Label: Flammable Gas - Class 2			

Hazchem No.: **2S - E**

Regulated identification.....

Hazardous Waste

I.D. No.:

Hazardous Ingredients	C.A.S. No.	Hazardous Ingredients	C.A.S. No.
1. Methane	74-82-8	3. Propane	74-98-6
2. Ethane	74-84-0		

2. Physical and chemical data

Boiling Range/Point	- 161 °C	Physical State: Gas	Appearance: Colour less
Melting/Freezing Point	- 182 °C	Vapour Pressure @ 35°C	Odor mm/Hg: Odorless. Ethyl Mercaptan (C₂H₅SH) is added for odourisation
Vapour Density (Air = 1): 0.6 to 0.8		Solubility in water @ 30°C: Not Soluble / Slight / Soluble	Others: -----

Specific Gravity Water-1: **0.62 to 0.70**

PH : -----

3 Fire and Explosion Hazard data

Flammability **Yes**

LEL **5 %**

%Flash Point 0° :
-188 ° C

Auto ignition: **540 ° C**

TDG Flammability **2**

UEL **15 %**

Explosion Sensitivity to impact:

May Explode

Explosion Sensitivity
to Static Electricity:
May Explode

Hazardous Combustion
Products: **CO2 + Traces
of oxides, CO (If
incomplete
Combustion)**

Hazardous Polymerization: **Will not occur**

Combustible Liquid: **NA**

Explosive Material:
Yes

Corrosive: **NA**

Flammable Material: Yes

Oxidizer: **NA**

Others

Pyrophoric Material: **NA**

Organic Peroxide:
NA

4. Reactivity Data

Chemical Stability: **Stable**

Incompatibility with other Material : **Yes. Readily forms explosive mixtures with air or oxygen. Avoid contact with strong oxidizing agents**

Reactivity: **Strong oxidizing agents increase risk of fire (peroxides, perchlorates, chlorine, liquid oxygen).**

Hazardous Reaction Product: **Incomplete combustion yields Carbon Monoxide**

5. Health Hazard Data

Routes of Entry: **Inhalation**

Effects of Exposure Symptoms: **Inhalation may cause asphyxiation by displacing or partially displacing the air required to support life.**

Emergency Treatment:

INHALATION: Remove IP to fresh air, use respirator guards during normal exposure and breathing

apparatus in case of major exposure. If breathing is difficult, have trained person to administer oxygen. If respiration stopped, administer CPR and seek medical attention immediately.

TLV (ACGIH): **1000 ppm** (Methane is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5 %.)

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Permissible Exposure Limit: Methane is a simple asphyxiant (SA). Oxygen levels should be maintained above 19.5%.

LC 50 Mouse: 326 g / m³ – 2 h

NEPA Hazard Signals	Health	Flammability	Stability	Special
	2	4	0	-

6. Preventive Measures

Personnel Protective equipment: Safety Goggles, Face Shield, Self-Contained Breathing Apparatus, Fire Retardant Clothing, Hand gloves

Handling and storage Precautions:

- **Keep away from sources of ignition.**
- **Avoid breathing gas, use with adequate ventilation. Wear approved respiratory Protection if there is potential for exposure above the exposure limits.**
- **Avoid static build up.**
- **Monitoring concentration of Natural Gas in atmosphere with gas measuring equipments**

While draining/venting.

- **Avoid wearing contact lenses during handling of Natural Gas.**

STORAGE:

- **Keep away from source of ignition.**
 - **Use of appropriate warning / caution boards.**
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- Store cylinders in well ventilated, low fire risk area.
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7. Emergency and First aid measure

Fire	Fire Extinguishing: Dry Chemical Powder, Carbon Dioxide. Water ineffective, but may be used to keep surrounding area cool
Fire	Special procedures: Cordoned off area. Evacuate all unnecessary personnel. Eliminate all sources of ignition. Best procedure is to shut off gas supply. Wear self - contained breathing apparatus and full protective clothing. Use water spray to keep fire exposed area cool
	Unusual Hazards: Mixture of natural gas and air in certain proportions can result in an explosive mixture.
Exposure	First Aid measures: Refer 5. Health Hazard Data
	Antidotes/Dosages : -----
Spills	Steps to be taken: (in case of Leakage) Evacuate unnecessary personnel upwind of the leakage area, remove or eliminate ignition sources, minor leaks can be detected with soap solution applied at suspected leak points, never use flame to detect presence of Natural Gas. Suitable Personnel Protective Equipments to be used.
	Waste disposal Method : NA

8. ADDITIONAL INFORMATION / REFERENCES
