



DRY NATURAL GAS

Safety Data Sheet

Section 1: Identification of the substance or mixture and of the supplier

Product Name: DRY NATURAL GAS
SDS Number: OOGC009
Synonyms/Other Means of Identification: Residue gas
Compressed gas

Intended Use: Fuel gas.

Manufacturer: Occidental Oil and Gas Corporation
5 Greenway Plaza
Suite 110
Houston, TX 77046

Health, Environment and Safety Department: (713) 513-6601

Emergency Health and Safety Number: Chemtrec: 800-424-9300 (24 Hours)

Section 2: Hazard(s) Identification

Classification

Flammable Gas Category 1
Gas Under Pressure: Compressed gas
Simple asphyxiant

Hazards not Otherwise Classified

None

Label Elements



DANGER

Contains gas under pressure; may explode if heated.

Extremely flammable gas.

May displace oxygen and cause rapid suffocation.

Precautionary Statement(s):

Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

Use only outdoors or in a well-ventilated area.

Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

Eliminate all ignition sources if safe to do so.

Protect from sunlight. Store in a well-ventilated place.

Dispose of contents and container in accordance with local and national regulations.

Section 3: Composition / Information on Ingredients

Component	CASRN	Concentration ¹
Methane	74-82-8	>90%
Ethane	74-84-0	<5%

¹ All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Section 4: First Aid Measures

Eye Contact: Rinse immediately with plenty of water. If symptoms persist, seek medical attention.

Skin Contact: Frostbite: warm injured area in warm (tepid) water. Seek medical attention for cold burns.

Inhalation (Breathing): Move to fresh air. If breathing is difficult, oxygen should be administered by qualified personnel. If respiration or pulse has stopped, have a trained person administer basic life support (Cardio-Pulmonary Resuscitation/Automatic External Defibrillator) and CALL FOR EMERGENCY SERVICES IMMEDIATELY.

Ingestion (Swallowing): Not a relevant route of exposure for a gas.

Most important symptoms and effects:

Acute: Blurred vision. Cardiac sensitization. CNS (Central Nervous System) depression. Drowsiness. Lack of coordination. Headache. Nausea. Irregular heartbeats (arrhythmia). Continued high exposure may result in unconsciousness, coma and death.

Delayed: None.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is required for symptoms caused by oxygen deficient environments. Medical attention may be needed for cold injury.

Other Comments: Before attempting rescue, first responders should be alert to the fire and explosion hazard and the possible presence of methane/ethane in concentrations that have displaced normal atmospheric oxygen levels and should consider the need for respiratory protection (see Section 8). Remove casualty to fresh air as quickly as possible. Immediately begin artificial respiration if breathing has ceased. Consider whether oxygen administration is needed. Obtain medical advice for further treatment.

Section 5: Fire-Fighting Measures

Specific hazards arising from the chemical: Extremely flammable. Gas can burn with near invisible flame in daylight. Readily ignited by heat, sparks or flames. Forms explosive mixtures with air. Incomplete combustion will create unburned hydrocarbons, carbon monoxide and smoke.

Suitable extinguishing media: Dry chemical. Carbon dioxide (CO₂). Water spray.

Special protective equipment and precautions for fire-fighters: In case of fire, allow gas to burn if flow cannot be shut off immediately. Move containers from fire area if it can be done without risk. If gas has not been ignited, disperse with water spray. Use water in flooding quantities as fog. Cool all affected containers with flooding quantities of water. In the event of fire, wear self-contained breathing apparatus.

Section 6: Accidental Release Measures

Personal precautions, protective equipment, and emergency procedures: Avoid breathing gas. Avoid contact with skin and eyes. Keep public away. Isolate and evacuate area. Shut off source, if safe to do so. Ventilate the area. Eliminate all sources of ignition. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment. Wear personal protective equipment as per Section 8.

Environmental Precautions: Stop leak if possible without personal risk. Releases must be immediately reported, if required, to appropriate agencies. Notify Local Emergency Planning Committee and State Emergency Response

Commission for release greater than or equal to RQ (US. SARA Section 304). If release occurs in the U.S. and is reportable under CERCLA Section 103, notify the National Response Center at (800) 424-8802 or (202) 426-2675.

Methods and materials for containment and cleaning up: Flammable/explosive gas will accumulate in enclosed areas. Permit escaped gas to dissipate with caution.

Section 7: Handling and Storage

Precautions for safe handling: Avoid inhalation. Avoid contact with skin and eyes. Keep contaminated clothing away from sources of ignition. To avoid ignition by static electricity discharge, equipment must be bonded and grounded. Do not enter confined spaces such as tanks or pits without following proper entry procedures. Contains gas under pressure. Handle in accordance with all current regulations and standards. Use only with adequate ventilation. Obtain appropriate training prior to handling.

Electrical installations and equipment in hazardous locations should be installed according to the National Electric Code (U.S.A.). Empty containers retain residue and may be hazardous. Do not pressurize, cut, heat, weld or expose such containers to sources of ignition.

Conditions for safe storage, including any incompatibilities: Gas storage containers are under high pressure. Use approved containers and equipment. Store in accordance with federal, state and local regulations.

Section 8: Exposure Controls / Personal Protection

Exposure Guidelines:

Component	ACGIH TLV	OSHA PEL	Other
Methane	None established	None established	None established
Ethane	None established	None established	None established

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

Appropriate engineering controls: Ensure compliance with applicable exposure limits. Ensure adequate ventilation, especially in confined areas. Use explosion proof equipment and lighting in classified/controlled areas. Where possible, enclose operations. Use local exhaust ventilation at the site of chemical release.

Eye/Face Protection: Eye and face protection (including chemical splash goggles and face-shield) that meets or exceeds the requirements of ANSI Z87.1 is recommended where there is a potential for contact with the eyes and/or face. Each user needs to identify the most appropriate means of eye and face protection for their employees through an appropriate exposure assessment.

Skin/Hand Protection: This product is a gas and skin protection is not normally required. Use protective clothing and equipment as required as determined by your PPE assessment.

Respiratory Protection: When exposure limits may be exceeded, wear respiratory equipment as per U.S. OSHA 29 CFR 1910.134. Positive pressure supplied air must be used when there is a potential for uncontrolled release. When the level may be above the IDLH, use an SCBA or positive pressure supplied air with an auxiliary self-contained escape pack. For rescue and maintenance work in storage tanks, use self-contained breathing apparatus.

Other Protective Equipment: None required.

Hygiene Measures: Obtain proper training prior to use. Handle in accordance with good industrial hygiene and safety practices. Do not smoke. Launder contaminated clothing before reuse.

Suggestions provided in this section for exposure control and specific types of protective equipment are based on readily available information. Users should consult with the specific manufacturer to confirm the performance of their protective equipment. Specific situations may require consultation with industrial hygiene, safety, or engineering professionals.

Section 9: Physical and Chemical Properties

Appearance:	Compressed gas
Physical Form:	Colorless gas
Odor:	Odorless.
Odor Threshold:	Not applicable.
Relative Density (water=1):	Not determined
Molecular Weight:	Not determined
Critical Temperature:	Not determined
Decomposition temperature:	Not determined
Melting/Freezing Point:	Not determined
Initial Boiling Point/Range:	-415 to -256 °F (-250.0 to -160 °C)
Flash Point:	-306 °F (-188 °C) (methane)
Auto-ignition Temperature:	~1,004 °F (~540 °C)
Flammability (solid, gas):	Extremely flammable gas
Upper Explosive Limits (vol % in air):	~15.0% (methane)
Lower Explosive Limits (vol % in air):	~5.0% (methane)
Evaporation Rate (nBuAc=1):	Not determined
Vapor Density (air= 1) :	<1
Vapor Pressure:	Not determined
Partition Coefficient (n-octanol/water) (Kow):	1.81
Solubility in Water:	Slight
pH:	Not applicable
Viscosity:	Not applicable

Section 10: Stability and Reactivity

Reactivity: Non-reactive under normal conditions.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: None known.

Conditions to avoid: Keep away from open flames, hot surfaces and sources of ignition.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Incomplete combustion will create unburned hydrocarbons, carbon monoxide and smoke.

Section 11: Toxicological Information

Health Hazards:

<u>Acute Toxicity</u>	<u>Hazard</u>
Inhalation	Cardiac sensitization. Central Nervous System impairment. Lack of coordination. Excitation. Headache. Nausea. Irregular heartbeat (arrhythmia). Continued high exposure may result in unconsciousness, coma and death.
Skin Contact	Contact with gas may cause frostbite.
Eye Contact	Contact with gas may cause frostbite.
Ingestion	Unlikely route of exposure for a gas.

Chronic Effects: No effects expected.

Carcinogenicity: None of the components are listed as a carcinogen by IARC, NTP or OSHA

Germ Cell Mutagenicity: No effects expected.

Reproductive Toxicity: No data is available on the product itself. A fuel gas containing methane, ethane, and butane as well as propane was found to produce neural tube defects in the fetuses of exposed mice. One mouse study found a fuel gas that contained butane as well as other hydrocarbons to cause hydrocephalus and exencephaly in the fetuses of exposed pregnant animals.

Oxygen deficiency may have independent effects on embryonic development. Threat to the unborn if mother is exposed to a concentration sufficient to render unconscious.

Acute Toxicity Values:

Methane:

LC50 Inhalation Rat 520,400 ppm/2hr.

Ethane:

LC50 Inhalation Rat 1,443 mg/L/120 min

Section 12: Ecological Information

Ecotoxicity:

Petroleum gases will readily evaporate from the surface and would not be expected to have significant adverse effects in the aquatic environment.

Bioaccumulative potential:

Since the log Kow values measured for refinery gas constituents are below 3, they are not regarded as having the potential to bioaccumulate.

Persistence and degradability:

The hydrocarbons in this material are expected to be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process.

Mobility in soil:

Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found.

Other adverse effects: None known.

Section 13: Disposal Considerations

Waste Disposal Method: This material is a gas and would not normally be managed as a waste.

Section 14: Transport Information

U.S. Department of Transportation (DOT)

Proper Shipping Name: NATURAL GAS COMPRESSED
UN/Id No: UN 1971
Hazard Class or Division: 2.1
Packing Group: Not applicable for gases
Labeling Requirements: Class 2.1

Additional Shipping Description: None

Section 15: Regulatory Information

U.S. Regulations:

CERCLA/SARA Title III - Section 302 Extremely Hazardous Substances and TPQs (in pounds):

This material contains the following chemicals subject to the reporting requirements of Section 302 of SARA Title III and 40 CFR 370:

Component	TPQ	EPCRA RQ
None	None	None

CERCLA/SARA Title III - Section 311/312 (Hazard Categories)

Acute Health:	Yes
Chronic Health:	No
Fire Hazard:	Yes
Pressure Hazard:	Yes
Reactive Hazard:	No

CERCLA/SARA Title III - Section 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR 372:

Component	Concentration ¹	de minimis
None	None	None

EPA (CERCLA) Reportable Quantity (in pounds):

This material contains chemicals subject to CERCLA reporting requirements. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

California Proposition 65:

This product contains the following regulated chemicals:

Component	Type of Toxicity
None listed	N/a

International Hazard Classification

Canada:

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the Regulations.

National Chemical Inventories

All components are either listed under TSCA or are exempt.

All components are listed on the Canadian DSL.

Section 16: Other Information

NFPA 704 Hazard Class: Health: 0 Flammability: 4 Instability: 0

HMIS Hazard Class: Health: 0 Flammability: 4 Instability: 0
(0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

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Guide to Abbreviations:

ACGIH = American Conference of Governmental Industrial Hygienists; CASRN = Chemical Abstracts Service Registry Number; CEILING = Ceiling Limit (15 minutes); CERCLA = The Comprehensive Environmental Response, Compensation, and Liability Act; EPA = Environmental Protection Agency; GHS = Globally Harmonized System; IARC = International Agency for Research on Cancer; INSHT = National Institute for Health and Safety at Work; IOPC = International Oil Pollution Compensation; LEL = Lower Explosive Limit; NE = Not Established; NFPA = National Fire Protection Association; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; PEL = Permissible Exposure Limit (OSHA); SARA = Superfund Amendments and Reauthorization Act; STEL = Short Term Exposure Limit (15 minutes); TLV = Threshold Limit Value (ACGIH); TWA = Time Weighted Average (8 hours); UEL = Upper Explosive Limit; WHMIS = Worker Hazardous Materials Information System (Canada)

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