


Safety Data Sheet

Natural Gas

Section 1 - Product and Company Identification

Product Name: Natural Gas	
Recommended Use: Fuel	Restrictions On Use: None known
Manufacturer's Name: Southern California Gas Company	Emergency Telephone Number: Residential (800) 427-2200 Commercial/Industrial (800) 427-2000
Address: 555 West 5th Street, GT 16C0 Los Angeles, CA 90013-1044	Telephone Number for Information: (213) 244 – 2740 (Safety & Health Department - general information)

Section 2 - Hazardous Ingredients

Physical Hazards: Flammable Gas Category 1 Gases Under Pressure Compressed Gas Category 1	Health Hazards: Simple Asphyxiant
Label Elements: Danger! 	
Hazard Phrases: Extremely flammable gas. Contains gas under pressure; may explode if heated. May displace oxygen and cause rapid suffocation.	
Precautionary Phrases: Keep away from unintended heat, sparks, open flames and hot surfaces. No smoking. 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.	

Section 3 - Composition/Information on Ingredients

<u>Chemical Component</u>	<u>CAS #</u>	<u>Percentage by Volume</u>
Methane	74-82-8	80-99%
Ethane	74-84-0	0.1-12%
Propane	74-98-6	0-5%
n-Butane	106-97-8	0-1.5%
Carbon Dioxide	124-38-9	0-3%

Note: Within Southern California Gas Company's service territory, the composition will vary by location. The listed concentrations are approximate ranges. Odorant, at trace amounts, may be comprised of some or all of the following components and/or blends thereof: Tetrahydrothiophene, tertiary-Butyl Mercaptan and/or other mercaptans.

Section 4 - First Aid Measures

Inhalation: If respiratory symptoms occur, remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult have qualified personnel administer oxygen. Get medical attention.

Eye Contact: If irritation or redness develops from exposure, flush eyes with clean water. Seek medical attention if symptoms persist.

Skin Contact: Not known to be a skin irritant. Skin absorption is unlikely. Good practice to wash any chemical from skin.

Ingestion: This product is a gas. Under normal atmospheric conditions, ingestion is unlikely.

Section 5 - Fire-Fighting Measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, or halon. Water may be ineffective on flames but useful for other purposes; including cooling heated surfaces or preventing the creation of static electricity.

Specific Hazards Arising from the Chemical:

Gas is extremely flammable and may readily be ignited by static charge, sparks and flames. A hazard from re-ignition and explosion exists if the flame is extinguished without stopping flow of gas and/or cooling surroundings and eliminating ignition source. Gas may travel a considerable distance to a source of ignition and flash back. Combustion may produce carbon dioxide and water with trace amounts of carbon monoxide, nitrogen oxides, sulfur oxides, aldehydes and soot.

Protection of Firefighters:

For fires involving this material, do not enter any enclosed or confined space without proper protective equipment, including, but not limited to, self-contained breathing apparatus. Use approved gas detectors in confined spaces.

Section 6 - Fire and Explosion Hazard Data

Personal Precautions, Protective Equipment, and Emergency Procedures: Keep away from flames and chemical oxidants. Eliminate all sources of ignition and in emergency ensure gas supply is shut off. Do not breathe gas. Use non-sparking tools and explosion-proof electrical equipment when working around gas. Ventilate area and allow to evaporate. Stay upwind and away from any accidental releases. Isolate immediate hazardous area and keep unauthorized personnel out. Appropriate protective equipment should be worn as conditions warrant. Before entering storage tanks and confined areas check the atmosphere for oxygen content and flammability.

Environmental hazards: Report spill as required by local and federal regulations.

Methods and materials for containment and cleaning up: Notify local authorities in accordance with all applicable regulations.

Section 7 - Handling and Storage

Precautions for safe handling: Work involving gas should be done by qualified professionals. Use non-sparking tools and explosion-proof electrical equipment. Ground container and transfer equipment to eliminate static electric sparks. Before entering storage tanks and confined areas, check the atmosphere for oxygen content and flammability. Purging of gas lines, blow-downs and other planned releases of natural gas should only be performed by qualified gas professionals. Such gas release operations should only be performed in well-ventilated areas or by safely venting the contents of gas lines and equipment to the outside atmosphere away from people, animals, structures and sources of ignition. All possible ignition sources should be extinguished before and during such operations. Do not release the contents of a gas line into a confined space.

Conditions for safe storage, including any incompatibilities: Store in cool, dry, well-ventilated areas, away from sources of heat, ignition and direct sunlight. Do not allow temperatures in cylinder storage area to exceed 52°C (125°F). Isolate from oxidizers such as oxygen, chlorine, or fluorine. Use a check valve or trap in the discharge line to prevent hazardous backflow. Post "No Smoking or Open Flame" signs in storage and use areas. Protect tanks that are stored in the open against extremes of weather and from ground dampness to prevent rusting. Empty containers retain product residues. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. Outdoor or detached storage is preferred.

Odor Fade: Under certain conditions, the distinctive odorant added to natural gas may be diminished or lost so that it cannot be smelled. Gas detection equipment should be used, particularly when working in confined areas. Do not rely on sense of smell alone to determine if there is a gas leak or if gas is otherwise present.

Section 8: Exposure Controls/Personal Protection

Chemical Component	Exposure Limit	NIOSH IDLH
Methane	None Established	None Established
Ethane	None Established	None Established
Propane	1000 ppm TWA OSHA PEL 1000 ppm TWA Cal/OSHA PEL	2100 ppm
n-Butane	800 ppm TWA OSHA PEL 800 ppm TWA Cal/OSHA PEL	None Established
Carbon Dioxide	5000 ppm TWA OSHA PEL 5000 ppm TWA Cal/OSHA PEL 5000 ppm TWA, 30,000 ppm STEL ACGIH TLV	40,000 ppm

Engineering Controls: If the recommended exposure limit is exceeded increased mechanical, non-sparking ventilation such as local exhaust may be required.

Respiratory Protection: If exposure limits are exceeded or if oxygen levels are unknown or deficient, use a NIOSH approved supplied air respirator. Selection of respiratory protection depends on the contaminant type, form and concentration. Select in accordance with OSHA 29 CFR 1910.134/CCR, Title 8, Section 5144, GISO and good Industrial Hygiene practice.

Eye/Face Protection: Wear safety glasses when handling cylinders or when exposure to high pressure gas.

Skin Protection: Work gloves are recommended for general usage. Wear flame retardant clothing in potentially flammable areas.

Other: Wear protective clothing if needed to avoid prolonged skin contact. Suitable washing facilities should be available in the work area. Explosion proof equipment should be used.

Section 9 - Physical and Chemical Properties

Appearance: Colorless gas or liquid.	Physical State: Vapor or liquid.
Color: None.	Odor: Often odorless in its natural state. A distinctive warning odorant is added to give it the characteristic unpleasant odor often associated with natural gas. However, the gas odor may not be detectable by smell because of an impaired sense of smell, when the odor is masked by other odors in the area, or because the odorant has been lost due to Odor Fade.
Odor Threshold: Not available.	pH: Not applicable.
Freezing Point: Not applicable.	Boiling Point: -259 ^o F/-162 ^o C (methane).
Flash Point: Flammable gas.	Evaporation Rate: Not applicable.
Flammability (solid, gas): Gaseous state.	Upper Flammability Limit: 15% in volume in air.
Lower Flammability Limit (also referred to as LEL): 4.5% in volume in air.	Vapor Pressure: Not applicable.
Vapor Density (Air = 1): 0.57 - 0.62.	Relative Density: 0.57-0.62.
Solubility (water): 3.5 mL/100 mL water at 62.6 ^o F/17 ^o C.	Partition Coefficient (n-octanol/water): Not applicable.
Auto-ignition Temperature: 1170 ^o F /632 ^o C minimum ignition temp, in air for methane.	Percent Volatile, wt. %: 100 %.

Section 10 - Stability and Reactivity

Reactivity: Not expected to be reactive.

Chemical Stability: Stable.

Conditions to Avoid: Heat, sparks flames and all sources of ignition.

Possibility of Hazardous Reactions: Heat will increase the pressure of gas in cylinders and may cause an explosion.

Incompatible Material: Strong oxidizing agents including, chlorine, chlorine dioxide, bromine pentafluoride, nitrogen trifluoride, liquid oxygen and oxygen difluoride.

Hazardous Decomposition Products: Combustion may produce carbon dioxide and water with trace amounts of carbon monoxide, nitrogen oxides, sulfur oxides, hydrocarbons, aldehydes, and soot.

Section 11 - Toxicology Information

Inhalation: Simple asphyxiant. At high concentrations, inhalation can cause symptoms of oxygen deprivation (asphyxiation), which includes shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, which are reversible when exposure ceases. Continued exposure, however, can lead to hypoxia (inadequate oxygen), unconsciousness and death. Ethane and propane have been shown to cause cardiac sensitization in some studies in laboratory animals. When gas is incompletely combusted, hazardous by-products can be produced such as carbon monoxide, which can cause carbon monoxide poisoning), and other potentially harmful substances.

Eye Irritation: Not expected to cause eye irritation.

Skin Irritation: Not expected to cause skin irritation.

Sensitization: None of the components are skin or respiratory sensitizers.

Chronic Effects: None known.

Carcinogenicity: None of the components listed in Section 3 are regulated as a carcinogen by OSHA, IARC or NTP.

Acute Toxicity Values:

Methane: Inhalation mouse LC50 539,600 ppm/2 hr.

Ethane: Inhalation mouse LC50 520,400 ppm/2 hr.

Propane: Inhalation mouse LC50 520,400 ppm/2 hr.

Carbon Dioxide: No toxicity data available.

Nitrogen: No toxicity data available.

Section 12 - Ecological Information

Ecotoxicity:

Methane: 96 hr LC50 fish 27.98 mg/L (estimate).

Ethane: 96 hr LC50 fish 27.98 mg/L (estimate).

Propane: 96 hr LC50 fish 27.98 mg/L (estimate).

Carbon Dioxide: 96 hr LC50 Oncorhynchus mykiss 35 mg/L.

Nitrogen: No data available.

Persistence and Degradability: The product is easily biodegradable.

Bioaccumulation Potential: The product is not bioaccumulating.

Mobility in Environment: This is a volatile substance, which may spread in the atmosphere.

Other Adverse Effects: Natural gas is expected to readily evaporate and not cause adverse effects on the aquatic environment.

Section 13 - Disposal Considerations

Disposal: Recycle container. Dispose in accordance with all local, state and federal regulations.

Section 14: Transportation Information

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	UN1971	Natural Gas, Compressed	2.1	N/A	No

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable
Special precautions: None known.

Section 15: Regulatory Information

CERCLA Hazardous Substances (Section 103)/RQ: This product is not subject to CERCLA reporting requirements as it is sold. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

EPA SARA 311 Hazard Classification: Acute Health, Fire Hazard, Pressure Hazard.

SARA 313: This product contains the following chemicals subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372): None.

California Safe Drinking Water and toxic Enforcement Act of 1986 (Proposition 65): This product may contain a material or materials which is/are known by the State of California to cause cancer, birth defects or other reproductive harm.

US EPA Toxic Substances Control Act: All of the components of this product are listed on the TSCA inventory.

Section 16: Other Information

SDS Revision History: Updated to GHS format – all Sections revised.

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Disclaimer: *Natural gas is obtained from a number of sources and composed of a mixture of chemical compounds which can vary depending on the source of the gas. The information contained in this document was compiled from sources believed to be reliable. Though the information contained herein is believed to be accurate as of the date this Safety Data Sheet was created, it may be incomplete or otherwise incorrect. The information applies only to the specific material listed and may not be valid for this material if it is used in combination with any other material or is not used as intended. It is the user's responsibility to satisfy himself/herself/itself as to the suitability and completeness of this information for his/her/its own particular use, and for his/her/its safety and the safety of the public, the environment and workers. This document is not intended to convey legal advice. Users should consult all applicable federal, state and local statutes, codes, ordinances, rules, regulations and standards relative to the use, storage, transportation and hazards of natural gas. The information contained in this document is provided without warranty, express or implied. If errors in the information provided herein are discovered, please report them promptly to Southern California Gas Company.*