Safety Data Sheet

Southern Company Gas

Section 1: Identification

Product identifier

Product name • **Natural Gas, Liquefied**

Synonyms • Fuel Gas, Liquefied natural gas, LNG

Relevant identified uses of the substance or mixture and uses advised against

Recommended use • Fuel

Details of the supplier of the Safety Data Sheet

Mailing address for all suppliers

P.O. Box 4569
Atlanta, GA 30302-4569
United States
Website:- http://www.pivotallng.com/
E-mail: info@pivotallng.com
Telephone (General): (713) 300-5116

Emergency telephone numbers

Supplier • 770.704.2480 – Pivotal LNG, Inc.

Section 2: Hazard Identification

United States (U.S.)

According to: OSHA 29 CFR1910.1200 HCS

Classification of the substance or mixture

OSHA HCS 2012

- Flammable Gases 1
- Refrigerated Liquefied Gas
- Simple Asphyxiant

Label elements

OSHA HCS 2012

DANGER

Hazard statements

- Extremely flammable gas.
- Contains refrigerated gas; may cause cryogenic burns or injury.
- May displace oxygen and cause rapid suffocation.

Precautionary statements

Prevention

- Do not handle until all safety precautions have been read and understood.
- Keep away from heat, sparks, open flames and/or hot surfaces. No smoking.
- Take precautionary measures against static discharge.
- Wear cold insulating gloves, face shield and/or eye protection.

Response

- Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
- Get immediate medical advice/attention.
- Thaw frosted body parts with lukewarm water. Do not rub affected area.
- Eliminate all ignition sources if safe to do so.

Storage/Disposal

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

Other hazards

OSHA HCS 2012

- Contains refrigerated gas; may cause cryogenic burns or injury. Under United States Regulations (29 CFR 1910.1200 - Hazard Communication Standard), this product is considered hazardous.

Section 3 - Composition/Information on Ingredients

Substances

- Material does not meet the criteria of a substance.

Mixtures

Composition				
Chemical Name	**Identifiers**	**%**	**LD50/LC50**	**Classifications According to Regulation/Directive**
Methane	**CAS:**74-82-8	94% TO 98%	NDA	**OSHA HCS 2012:** Flam. Gas 1; Press. Gas - Comp; Simp. Asphyx.
Ethane	**CAS:**74-84-0	1% TO 3%	NDA	**OSHA HCS 2012:** Flam. Gas 1; Press. Gas, Simp. Asphyx.
Nitrogen	**CAS:**7727-37-9	0% TO 1.6%	NDA	**OSHA HCS 2012:** Press. Gas - Comp.; Simp. Asphyx.
Propane	**CAS:**74-98-6	0.1% TO 0.2%	NDA	**OSHA HCS 2012:** Flam. Gas 1; Press. Gas - Liq.; Simp. Asphyx.
Butane	**CAS:**106-97-8	0.08% TO 0.2%	Inhalation-Rat LC50 • 658 g/m³ 4 Hour(s)	**OSHA HCS 2012:** Flam. Gas 1; Press. Gas; STOT SE 3: Narc. (Inhl); Simp. Asphyx.

All percentages provided are approximate.

Key to abbreviations
NDA = No Data Available
STOT SE 3 = Specific Target Organ Toxicity, Single Exposure

Section 4: First Aid Measures

Description of first aid measures

Inhalation
- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue get medical attention.

Skin
- If frostbite has occurred seek medical attention immediately; do NOT rub the affected area(s) or flush them with water. In order to prevent further tissue damage do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has not occurred immediately and thoroughly wash contaminated skin with soap and water.

Eye
- If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation, pain, swelling, lacrimation or photophobia persists, get medical attention as soon as possible.

Ingestion
- If frostbite has occurred, seek medical attention immediately; do NOT rub the affected area(s) or flush them with water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Refer to Section 11 - Toxicological information.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
- All treatments should be based on observed signs and symptoms of distress in the patient.
- Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5: Firefighting Measures

Extinguishing media

Suitable Extinguishing Media
- Dry chemical or CO2.

Unsuitable Extinguishing Media
- Water.

Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards
- EXTREMELY FLAMMABLE
- Will form explosive mixtures with air.
- Vapors may travel to source of ignition and flash back.
- Containers exposed to fire may vent and release flammable gas through pressure relief devices.
- Containers may explode from pressure when heated.

Hazardous Combustion Products
- Combustion may yield smoke, carbon monoxide and other products of incomplete combustion.

Advice for firefighters

- Liquefied natural gas vapor is only explosive as a gas if within the flammable range of 5%-15% when mixed with air.
- Gas fires should not be extinguished unless the flow of gas can be stopped. Only authorized personnel should turn off valves or attempt repairs.
- Firefighters should wear self-contained breathing apparatus (SCBA).
- Natural gas is lighter than air and will vent upward but special consideration should be given to areas that may trap or contain liquid and areas of possible gas migration underground and up through structures.
- Move containers away from fire if possible without added risk. Always stay away from containers engulfed in fire. Cool containers with flooding quantities of water until well after fire is out. DO NOT direct water at source of leak or safety devices - icing may occur.
- If tank, rail car or truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions
- Ventilate the area before entry.
- Wear appropriate personal protective equipment and avoid direct contact.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- CAUTION: When in contact with refrigerated/cryogenic liquids many materials become brittle and are likely to break without warning.

Emergency Procedures
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate area for at least for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Keep out of low areas. Stay upwind.
- LARGE RELEASE: Consider initial downwind evacuation for at least 800 meters (1/2 mile).

Environmental precautions

- Prevent entry of liquid into sewers, basements or confined areas. Once vaporized, gas may reach flammable levels.

Containment/Cleanup Measures

- Stop release if possible without risk.
- All equipment used when handling the product must be grounded.
- If possible, turn leaking containers so that gas escapes rather than liquid.
- Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Do not direct water at source of leak.
- Do not direct water at spill or source of leak.
- Isolate area until gas has dispersed.

Section 7 - Handling and Storage

Precautions for safe handling

- Use only with adequate ventilation. Keep away from heat and ignition sources – No Smoking.
- Take precautionary measures against static charges.
- All equipment used when handling the product must be grounded. Use only non-sparking tools.
- Be aware of any signs of dizziness or fatigue, especially if work is done in a poorly ventilated area; exposures to fatal concentrations of this gas mixture could occur without any significant warning symptoms, due to olfactory fatigue or oxygen deficiency.
- Cylinders should be firmly secured to prevent falling or being knocked-over. Use explosion-proof - electrical, ventilating and/or lighting equipment. Empty containers retain product residue and can be hazardous.
- Do not cut, weld, puncture or incinerate container. Wear appropriate personal protective equipment, avoid direct contact.
- Avoid contact with skin, eyes, and clothing. Avoid breathing gas.

Conditions for safe storage, including any incompatibilities

- Containers should be stored in dry, well-ventilated areas away from sources of heat, ignition and direct sunlight.
- Protect cylinders against physical damage. Cylinders should be firmly secured to prevent falling or being knocked over.

Section 8 - Exposure Controls/Personal Protection

Control Parameters

Exposure Limits/Guidelines				
	Result	**ACGIH**	**NIOSH**	**OSHA**
Butane (106-97-8)	STELs	1000 ppm STEL	Not established	Not established
	TWAs	Not established	800 ppm TWA; 1900 mg/m3 TWA	Not established
Propane (74-98-6)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases; Alkane C 1-4)	1000 ppm TWA; 1800 mg/m3 TWA	1000 ppm TWA; 1800 mg/m3 TWA
Ethane (74-84-0)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	Not established	Not established
Methane (74-82-8)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	Not established	Not established

Key to abbreviations
ACGIH = American Conference of Governmental Industrial Hygiene
NIOSH = National Institute of Occupational Safety and Health
OSHA = Occupational Safety and Health Administration
STEL= Short Term Exposure Limits are based on 15-minute exposures
TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures

Exposure controls

Engineering measures/controls

- Adequate general ventilation should be provided when handling. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation or other engineering controls to maintain airborne levels below recommended exposure limits. Use explosion proof electrical, ventilating and/or electrical equipment.

Personal protective equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment.

Eye/Face

- Wear safety glasses.

Skin/body

- Wear leather gloves when handling cylinders.
- Always wear thermal protective clothing when handling refrigerated/cryogenic liquids.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning.

Environmental Exposure Controls

- Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties			
Material Description			
Physical Form	Liquid	Appearance/Description	Colorless liquid with no odor.
Color	Colorless	Odor	Odorless, product unodorized.
Odor Threshold	No data available		
General Properties			
Boiling Point	-258 F(-161.1111 C)	Melting Point/Freezing Point	-295 F (-182.6667 C)
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	0.44, Water=1	Water Solubility	No data available
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	No data available	UEL	15 %
LEL	4 %	Autoignition Temperature	No data available
Flammability (solid, gas)	No data available		
Environmental			
Octanol/Water Partition coefficient	No data available		

Section 10: Stability and Reactivity

Reactivity

- No dangerous reaction known under conditions of normal use.

Chemical stability

- Stable under normal temperatures and pressures.

Possibility of hazardous reactions

- Hazardous polymerization will not occur.

Conditions to avoid

- Keep away from heat, sparks and flame.

Incompatible materials

- Non-cryogenic materials.

Hazardous decomposition products

- Thermal oxidative degradation can produce carbon dioxide and carbon monoxide.

Section 11 - Toxicological Information

Information on toxicological effects

Components		
Methane (94% TO 98%)	74-82-8	**Acute Toxicity:** Inhalation-Mouse LC50 • 326 g/m³ 2 Hour(s)
Propane (0.1% TO 0.2%)	74-98-6	**Acute Toxicity:** Inhalation Rat LC50 • >800000 ppm 15 Minute(s); *Behavioral*: **General anesthetic**; *Behavioral*: **Ataxia**; *Lungs, Thorax, or Respiration*: **Respiratory depression**

Key to abbreviations
LC – Lethal concentration TC – Toxic concentration

GHS Properties	Classification
Respiratory sensitization	**OSHA HCS 2012**•No data available
Serious eye damage/Irritation	**OSHA HCS 2012**•No data available
Acute toxicity	**OSHA HCS 2012**•No data available
Aspiration hazard	**OSHA HCS 2012**•No data available
Carcinogenicity	**OSHA HCS 2012**•No data available
Skin corrosion/Irritation	**OSHA HCS 2012**•No data available
Skin sensitization	**OSHA HCS 2012**•No data available
STOT-RE	**OSHA HCS 2012**•No data available
STOT-SE	**OSHA HCS 2012**•No data available
Toxicity for Reproduction	**OSHA HCS 2012**•No data available
Germ Cell Mutagenicity	**OSHA HCS 2012**•No data available

Potential Health Effects

Inhalation

Acute (Immediate)
- When vaporized, this material is a simple asphyxiant. May displace or reduce oxygen available for breathing especially in confined spaces. If this material is released in a small, poorly ventilated area (i.e., an enclosed or confined space), an oxygen-deficient environment may occur. Individuals breathing such an atmosphere may experience symptoms which include headaches, ringing in ears, dizziness, drowsiness, unconsciousness, nausea, vomiting, and depression of all the senses. Under some circumstances of over-exposure, death may occur. The following effects associated with decreased levels of oxygen: increase in breathing and pulse rate, emotional upset, abnormal fatigue, nausea, vomiting, collapse, loss of consciousness, convulsive movements, respiratory collapse and death.

Chronic (Delayed)
- No data available.

Skin

Acute (Immediate) • Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.

Chronic (Delayed) • No data available.

Eye

Acute (Immediate) • Contact with gas or liquefied gas will cause burns, severe injury and/or frostbite.

Chronic (Delayed) • No data available.

Ingestion

Acute (Immediate) • Ingestion can cause burns similar to frostbite.

Chronic (Delayed) • No data available.

Section 12 - Ecological Information

Toxicity

- Non-mandatory section - information about this substance not compiled for this reason.

Persistence and degradability

- Non-mandatory section - information about this substance not compiled for this reason.

Other adverse effects

- Non-mandatory section - information about this substance not compiled for this reason.

Bioaccumulative potential

- Non-mandatory section - information about this substance not compiled for this reason.

Mobility in Soil

- Non-mandatory section - information about this substance not compiled for this reason.

Other adverse effects

- Non-mandatory section - information about this substance not compiled for this reason.

Section 13 - Disposal Considerations

Waste treatment methods

Product waste • Dispose of content and/or container in accordance with local, regional, national and/or international regulations.

Packaging waste • Dispose of content and/or container in accordance with local, regional, national and/or international regulations.

Section 14 - Transport Information

	UN number	UN proper shipping name	Transport hazard class(es)	Packing group	Environmental hazards
DOT	UN1992	Natural Gas, Refrigerated Liquid	2.1	None	ND A

Key to abbreviations

NDA = No Data Available

Special precautions for user • None specified.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code • Not applicable.

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute, Fire, Pressure (Sudden Release of)

Inventory		
Component	**CAS**	**TSCA**
Butane	106-97-8	Yes
Ethane	74-84-0	Yes
Methane	74-82-8	Yes
Nitrogen	7727-37-9	Yes
Propane	74-98-6	Yes

United States

Labor

U.S. – OSHA-Process Safety Management-Highly Hazardous Chemicals

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - CERCLA/SARA - Section 313 - Emission Reporting

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

United States - California

U.S. – California – Proposition 65 – Carcinogens List

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. – California – Proposition 65 – Developmental Toxicity

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed
Methane	74-82-8	Not Listed

U.S. – California – Proposition 65 – **Maximum Allowable Dose Levels (MADL)**

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. – California – Proposition 65 – No Significant Risk Levels (NSRL)

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. – California – Proposition 65 – **Reproductive Toxicity Female**

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

U.S. – California – Proposition 65 – **Reproductive Toxicity Male**

Ethane	74-84-0	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed

Section 16 - Other Information

Revision Date • May 15, 2017

Last Revision Date • October 30, 2015

Preparation Date • October 30, 2015

Disclaimer/Statement of Liability

- The information contained in this SDS was obtained from the Environmental Protection Agency and other sources which are believed reliable and based upon current available scientific data and analyses. New information may be developed from time to time which may render the conclusions of this report obsolete. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. Although reasonable care has been taken in the preparation of this document, we extend no warranties, expressed or implied, and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual user should make a determination as to the suitability of the information or product for his/her particular purpose(s). The conditions or methods of handling, storage, use, and disposal of the product are beyond our control and may be beyond our knowledge. Therefore, we do not assume responsibility and expressly disclaim any liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of the product.