SECTION 1: IDENTIFICATION	
(a) PRODUCT IDENTIFIER:	(b) SYNONYMS:
Natural gas	Wellhead gas, Petroleum gas, Fuel gas, Methane

(c) Recommended Use: Fuel for household and industrial purposes; raw material for manufacturing.
Restrictions On Use: Not to be used for anything other than recommended use.

(d) Producer:

Chesapeake Energy Corporation and Subsidiaries ● 6100 N. Western Avenue, Oklahoma City, OK 73118
Tel: 800-566-9306 ● Fax: 405-753-5468

(e) 24 HR EMERGENCY ASSISTANCE PHONE NUMBER: Verisk 3E – 800-451-8349 / Client ID 11906

SECTION 2: HAZARDS IDENTIFICATION

The categories of Health Hazards as defined in OSHA 29 CFR 1910.1200 Hazard Communication Standard have been evaluated and are listed below. Refer to Sections 3, 8, and 11 for additional information.

Hazard Classification	(a) Hazard Category	(b) Hazard Symbols	(b) Signal Word	(b) Hazard Statement	(b) Precautionary Statement
Human Health Hazards					
Acute Toxicity (Oral)	N/C	-	-	-	-
Acute Toxicity (Dermal)	N/C	-	-	-	-
Acute Toxicity (Inhalation)	N/C	-	-	-	-
Skin Corrosion/Irritation	N/C	-	-	-	-
Eye Damage/Irritation	N/C	-	-	-	-
Respiratory Sensitization	N/D	-	-	-	-
Skin Sensitization	N/C	-	-	-	-
Germ Cell Mutagenicity	1B				
Carcinogenicity	1A				
Reproductive Toxicity	N/C	-	-	-	-
Specific Target Organ Toxicity (STOT) Single-Exposure	3		Warning	May cause drowsiness or dizziness	Avoid breathing gas/vapors. P233, P261, P271, P304, P312, P340, P403, P405, P501
Specific Target Organ Toxicity (STOT) Repeated or Prolonged Exposure	N/C	-	-	-	-
Aspiration Hazard	N/D	-	-	-	-
Simple Asphyxiant	-	-	Warning	May displace oxygen and cause rapid suffocation	-

Health Hazard Precautionary Statement	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P233	Keep container tightly closed.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ protective clothing/eye protection/face protection.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P308+P313	If exposed or concerned. Get medical advice/attention.
P312	Call a poison center or doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P403	Store in a well-ventilated place.
P405	Store locked up.
P501	Dispose of contents/container to an approved facility.

Hazard Classification	Hazard Category	Hazard Symbols	Signal Word	Hazard Statement	Precautionary Statement
Physical Hazards					
Explosives	N/C	-	-	-	-
Flammable Gases	1		Danger	Extremely flammable gas	Keep away from heat/sparks/open flames/hot surfaces – No Smoking. P210, P377, P381, P403
Flammable Aerosols	N/C	-	-	-	-
Oxidizing Gases	N/C	-	-	-	-
Gases Under Pressure	Liquefied gas		Warning	Contains gas under pressure; may explode if heated	Protect from sunlight. Store in a well-ventilated place. P410, P403
Flammable Solids	N/C	-	-	-	-
Self-reactive Substances and Mixtures	N/C	-	-	-	-
Substances and mixtures which react with water to emit flammable gases	N/C	-	-	-	-
Oxidizing Liquids	N/C	-	-	-	-
Oxidizing Solids	N/C	-	-	-	-
Organic Peroxides	N/C	-	-	-	-
Corrosive to Metals	N/C	-	-	-	-

Physical Hazard Precautionary Statement	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.

Physical Hazard Precautionary Statement	
P235	Keep cool.
P240	Ground/Bond container and receiving equipment.
P241	Use explosion-proof electrical/ventilating/lighting/equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/eye protection/face protection.
P303+P361	If on skin or hair: Remove/take off immediately all contaminated clothing.
P353	Rinse skin with water/shower.
P370+P378	In case of fire. Use dry chemical, carbon dioxide, or foam to extinguish.
P377	Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381	Eliminate all ignition sources if safe to do so.
P403	Store in a well-ventilated place.
P410	Protect from sunlight.

Hazard Classification	(a) Hazard Category	(b) Hazard Symbols	(b) Signal Word	(b) Hazard Statement	(b) Precautionary Statement
Environmental Hazards					
Acute Toxicity to the Aquatic Environment	N/C	-	-	-	-
Chronic Toxicity to the Aquatic Environment	N/C	-	-	-	-

(c) Hazards not otherwise classified: Frostbite. Exposure of skin or eyes to compressed gases may result in freezing of the skin or eyes. This material may contain or release hydrogen sulfide. In high doses, hydrogen sulfide may produce pulmonary edema and respiratory depression or paralysis.

(d) Unknown acute toxicity: None Identified.

Medical conditions which are generally recognized as being aggravated by exposure: Populations with chronic respiratory, skin, or eye disease are at increased risk from exposure. Hydrocarbon exposure may sensitize the myocardium to epinephrine-induced cardiac arrhythmias (HSDB, 2014).

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS				
Hydrocarbon Ranges	**(a) Chemical name (b) (Common name and synonyms)**	**(c) CAS No.**	**(c) EC No.**	**(b) % Weight**
	Natural Gas	8006-14-2		100
Components				
Aliphatic Hydrocarbons				
$C_1 – C_3$	Methane	74-82-8	200-812-7	35 - 65
	Ethane	74-84-0	200-814-8	13 -25
	Propane	74-98-6	200-827-9	8 - 21
C_4	Butane (all isomers)	68513-65-5	271-009-7	4 - 13
C_5	Pentanes	-	-	1 - 6
$C_6 – C_8$	“Light aliphatic” hydrocarbons	-	-	0 - 5
	n-Hexane	110-54-3	203-777-6	0 - 1

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Hydrocarbon Ranges	(a) Chemical name (b) (Common name and synonyms)	(c) CAS No.	(c) EC No.	(b) % Weight
$C_9 – C_{18}$	"Mid-range aliphatic" hydrocarbons	-	-	0 – 0.5
Aromatic Hydrocarbons				
C_6	Benzene	71-43-2	200-753-7	0 – 0.2
$C_7 – C_8$	Ethylbenzene	100-41-4	202-849-4	0 – 0.1
	Toluene	108-88-3	203-625-9	0 – 0.3
	Xylenes (all isomers)	1330-20-7	215-535-7	0 - 0.1
Other				
	Carbon Dioxide	124-38-9	204-696-9	0 – 5
	Nitrogen	7727-37-9	231-783-9	0 – 5
	Hydrogen sulfide	7783-06-4	231-977-3	< 0.5 varies

* Natural gas is a highly variable mixture containing a variety of compounds. The concentration ranges listed above are based on specific testing results and reported industry values. Components of this product are normally within the ranges listed above; however, depending on the geographical source, natural gas composition may vary.

SECTION 4: FIRST AID MEASURES

(a) Description of necessary measures:

Emergency Medical advice is available from regional poison control centers 1-800-222-1222.

INHALATION:	Move to fresh air immediately. If breathing stops, provide artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.
INGESTION:	Material is a gas under normal atmospheric conditions, so ingestion is not an expected problem. If oral exposure occurs, seek medical attention.
SKIN CONTACT:	Not expected to cause prolonged or significant skin irritation. CAUTION: Contact with liquid gas can cause frostbite or chemical burns. Treatment for frostbite may be necessary. Remove the victim from the source of contamination. IMMEDIATELY wash affected areas gently with COLD water (and soap, if necessary) while removing and isolating all contaminated clothing. Dry carefully with clean, soft towels. If symptoms such as inflammation or irritation develop, IMMEDIATELY call a physician or go to a hospital for treatment.
EYE CONTACT:	Flush eyes immediately with water for 15 minutes while holding eyelids open. Remove contacts if worn. If irritation persists, seek medical attention. Eye contact with liquefied gas can cause frostbite or chemical burns.

(b) Most important symptoms/effects:

- **Acute:** Rapid respiration, loss of mental alertness and coordination, dizziness. Anesthetic effects and asphyxiant at high concentrations.
- **Delayed:** None identified

(c) Indication of immediate medical attention and special treatment: Significant over-exposure

Notes to physician: Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in person exposed to high concentration of hydrocarbon solvents (e.g. in enclosed spaces or with deliberate abuse). The use of other drugs with less arrhythmogenic potential should be considered. If sympathomimetic drugs are administered, observe for the development of cardiac arrhythmias. Treat symptomatically and supportively.

General advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

SECTION 5: FIRE FIGHTING MEASURES

(a) Suitable extinguishing media: Any extinguisher suitable for Class B fires, dry chemical, firefighting foam, or carbon dioxide (CO_2). Fire should not be extinguished unless flow of gas can be immediately stopped.

Unsuitable extinguishing media: Water can be used to cool the fire, but it may not extinguish the fire.

(b) Specific hazards arising from the chemical: Material presents an extreme fire hazard. Liquid very quickly evaporates, even at low temperatures, and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by ignition sources such as welding equipment, pilot lights, electrical motors, etc.

(c) Special protective equipment and precautions for fire-fighters: Shut off flow immediately if it can be done safely. Isolate the area from personnel. Keep personnel upwind from fire. Fire fighters should use appropriate Self-Contained Breathing Apparatus (SCBA) while in close proximity to fire and vapors coming from product. Move personnel upwind of any smoke or vapors. If the gas source cannot be shut off immediately, equipment and surfaces exposed to the fire should be cooled with water to prevent overheating and explosions.

In the event of fire and/or explosion, do not breathe fumes.

(d) Flammability/Explosivity: NFPA RATING: Health = 1 (Slight) (=3 if hydrogen sulfide is present)
Flammability = 4 (Severe)
Instability = 0 (Minimal)
(0-Minimal, 1-Slight, 2-Moderate, 3-Serious, 4-Severe)

(e) Hazardous Decomposition Products: Normal combustion forms carbon dioxide and water vapor; incomplete combustion may produce carbon monoxide. Oxides of nitrogen and sulfur may be formed

SECTION 6: ACCIDENTAL RELEASE MEASURES

(a) Personal precautions, Protective equipment, and Emergency procedures: Flammable gas and liquid releases may create an explosive atmosphere, ventilate area. Keep sources of ignition away (sparks/heat/open flame/oxidizing gas). Do not touch spilled liquid (frostbite/freeze burn hazard). Use of explosion-proof equipment is recommended."

(b) Methods and materials for containment and cleaning up: Follow the procedures recommended in Section 13
Potentially incompatible absorbents: none identified

Large Spills: Flammable. Contact emergency personnel. Stop leak if it is safe to do so. Move personnel upwind from spill. Spillages of liquid product will create a fire hazard and may form an explosive atmosphere. Beware of accumulation of gas in low area or contained areas. Properly ventilate area so that dangerous concentrations will not accumulate to create an explosive atmosphere.

SECTION 7: HANDLING AND STORAGE

(a) Precautions for safe handling: Use proper ventilation techniques. Be aware of ignition sources and remove them. Electrical equipment should only be used if it is intrinsically safe. Use explosion proof equipment. Avoid exposure to liquid.

(b) Conditions for safe storage, including any incompatibilities: Store in a segregated and approved area. Keep containers tightly closed and sealed when not being used. Be aware that empty containers may still contain harmful vapors and residue. Do not smoke in the same area where product is stored. Store in a properly ventilated area. Be aware that harmful and/or explosive vapors can accumulate in the headspace of a tank. Avoid vapors when opening tank hatches and dome covers.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits:			
Components	**(a) OSHA PEL[1]**	**(a) ACGIH TLV[2]**	**(a) IDLH[4]**
Propane	1,000 ppm (TWA)	NE	2,100 ppm
Butane (all isomers)	NE	1,000 ppm (C)	NE
Pentane (all isomers)	1,000 ppm (TWA)	1,000 ppm (TWA)	1,500 ppm
"Light aliphatic" ($C_7 - C_9$ aliphatic hydrocarbons; heptane)	NE	NE	NE
n-Hexane	500 ppm (TWA)	50 ppm (TWA) Skin	1,100 ppm
"Mid-range aliphatic" ($C_{>8}$-C_{16} aliphatic hydrocarbons)	NE	NE	NE
Benzene	1 ppm (TWA) 5 ppm (STEL)	0.5 ppm (TWA) 2.5 ppm (STEL) Skin	500 ppm
Ethylbenzene	100 ppm (TWA)	20 ppm (TWA)	800 ppm
Toluene	200 ppm (TWA) 300 ppm (C)	20 ppm (TWA)	500 ppm
Xylene	100 ppm (TWA)	100 ppm (TWA) 150 ppm (STEL)	900 ppm
Carbon Dioxide	5,000 ppm (TWA) 30,000 ppm (STEL)	5,000 ppm (TWA)	40,000 ppm
Hydrogen sulfide	20 ppm (C)	1 ppm (TWA) 5 ppm (STEL)	100 ppm

Notes:

1. OSHA PEL are 8-hour TWA (Time-weighted average) concentrations unless otherwise noted. A ("C") designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short-Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday.
2. Threshold Limit Values – TWA established by the ACGIH represents the TWA concentration for a conventional 8-hour workday and a 40-hour workweek, to which it is believed that nearly all workers may be repeatedly exposed , day after day, for a working lifetime without adverse effect; Short-Term Exposure Limit (TLV-STEL) represents a 15-minute TWA exposure that should not be exceeded at any time during a work day. ACGIH TLV's are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes (ACGIH, 2014). The "Skin" notation refers to the potential significant contribution to the overall exposure by the cutaneous (skin) route.
3. The "immediately dangerous to life or health air concentration values (IDLHs)" are used by NIOSH as part of a respiratory selection criteria.
4. No exposure limits have been developed by the producer.

(c) Appropriate engineering controls: Use exhaust to prevent airborne concentrations to increase above exposure limits. Keep away from ignition sources. Use intrinsically safe equipment.

Eye/face protection: Wear approved safety glasses/goggles with side shields and/or an appropriate full-face shield. All eye protection should be selected and worn in accordance with the OSHA eye and face protection guidelines outlined in 29 CFR 1910.132 and 1910.133.

Skin Protection: Wear chemical protective clothing e.g. gloves, aprons, boots to avoid contact with liquid. **F**lame retardant clothing should be worn when working on-site.

Respiratory protection: CAUTION: Flammability limits should be considered when assessing the need to expose personnel to concentrations requiring respiratory protection. A positive pressure air line with full-face mask and escape bottle or a self-contained breathing apparatus (SCBA) should be available in case of an emergency and cases when the TLV is exceeded. All respirators should be selected and worn in accordance with 29 CFR 1910.132 and 1910.134.

General hygiene considerations: Always observe good personal hygiene measures, such as washing after handling the material, and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties*	
	Solution:
(a) Appearance:	Colorless gas
(b) Odor:	Odorless to slight hydrocarbon
(c) Odor Threshold:	N/A
(d) pH:	Neutral
(e) Melting point/Freezing point:	N/A
(f) Boiling point/range:	-258 to -43 °F
(g) Flash Point:	N/A
(h) Evaporation rate:	Gas under normal conditions
(i) Flammability:	Flammable Gas
(j) LEL/UEL or LFL/UFL:	LEL 4% / UEL 15%
(k) Vapor pressure:	>760 @ 25 °C
(l) Vapor density:	0.6 (estimate)
(m) Relative density:	N/A
(n) Solubility: H_20	Slight
(o) Partition coefficient:	N/A
(p) Auto-ignition temperature:	900 – 1,170 °F
(q) Decomposition temperature:	N/A
(r) Viscosity:	N/A
(s) Specific Gravity:	0.55 (estimate)

*Properties of this material will vary with actual composition.

SECTION 10: STABILITY AND REACTIVITY

(a) Reactivity: Liquid oxygen gives an explosive mixture when combined with liquid methane [NFPA 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid

"superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980]. Involved in explosions when combined with especially powerful oxidizers such as bromine pentafluoride, chlorine trifluoride, chlorine, iodine, heptafluoride, dioxygenyl tetrafluoroborate, dioxygen difluoride, trioxygen difluoride, nitrates, chlorates, peroxides, and liquid oxygen. Other violent reactions include, chlorine dioxide and nitrogen trifluoride.

(b) Chemical stability: Material is stable under normal conditions.

(c) Possibility of hazardous reactions: No data available.

(d) Conditions to avoid (e.g., static discharge, shock, or vibration): Excess heat, flame or sparks. Keep away from incompatible materials.

(e) Incompatible materials: Chlorine, bromine pentafluoride, chlorine dioxide, aluminum chloride, halogens and additional oxidizing agents. Avoid contact with acids.

(f) Hazardous decomposition products: Carbon dioxide, carbon monoxide.

(g) Hazardous Polymerization: None known to occur.

SECTION 11: TOXICOLOGICAL INFORMATION

(a) Information on likely routes of exposure:

- **Inhalation:** Acts as a simple asphyxiant (unless hydrogen sulfide is present). Not expected to be a respiratory sensitizer. Vapors may cause dizziness or asphyxiation without warning. Some may be irritating if inhaled at high concentrations. Fire may produce irritating and/or toxic gases.
- **Accidental Ingestion:** Ingestion is unlikely to occur – contact with liquid can cause frostbite.
- **Skin contact:** Expanding gas may cause skin damage – contact with liquid can cause frostbite or chemical burns.
- **Eye contact:** Expanding gas may cause momentary freezing followed by swelling and slight irritation or damage.

(b) Symptoms related to physical, chemical and toxicological characteristics: Skin contact may cause dermal irritation/frostbite. High concentrations of hydrogen sulfide can be toxic. Hydrogen sulfide acts as a chemical asphyxiant by paralyzing the respiratory center.

(c) Delayed and immediate effects and also chronic effects from short- and long-term exposure: Chronic skin exposures can lead to dermatitis.

(d) Numerical measures of toxicity:

Acute Toxicity (Oral)			
Chemical	Tested % Weight	Model	LD_{50} Range (mg/kg bw)
$C_1 – C_3$	No data available		
n-Butane	No data available		
Pentanes	100	Rat	> 2,000 mg/kg
	100	Rat	28,710 mg/kg
C_6-C_8 Aliphatic Hydrocarbons (minus n-hexane)	100	Rat	>5,000 - > 15,000 mg/kg
$C_{>8}$-C_{16} Aliphatic Hydrocarbons	100	Mouse	>5,000 – 15,800 mg/kg
Benzene	100	Rat	3,306 mg/kg
Ethylbenzene	100	Rat	3,500 – 5,460 mg/kg

Acute Toxicity (Oral)			
Chemical	Tested % Weight	Model	LD_{50} Range (mg/kg bw)
Toluene	100	Rat	1,640 – 7,500 mg/kg
Xylenes	100	Rat	3,523 – 8,600 mg/kg
Carbon dioxide	No data available		
Nitrogen	No data available		
Hydrogen Sulfide	70%	Rat	100 -215 mg/kg

Acute Toxicity (Dermal)			
Chemical	% Weight	Model	LD_{50} Range (mg/kg bw)
$C_1 – C_3$	No data available		
Butane	No data available		
Pentanes	100	Rabbit	3,000 mg/kg
n-Hexane	100	Rabbit	3,000 mg/kg
C_6-C_8 Aliphatic Hydrocarbons (minus n-hexane)	100	Rabbit	> 2,920 - > 3,160 mg/kg
$C_{>8}$-C_{16} Aliphatic Hydrocarbons	100	Rabbit & rat	> 2,000 mg/kg
$C_{19} – C_{32}$ Aliphatic Hydrocarbons	100	Rat	> 2,000 mg/kg
Benzene	100	Rabbit	8,260 mg/kg
Ethylbenzene	100	Rabbit	17,800 mg/kg
Toluene	100	Rabbit	12,124 mg/kg
Xylene	100	Rabbit	43,000 mg/kg
Carbon dioxide	No data available		
Nitrogen	No data available		
Hydrogen sulfide	No data available		

Acute Toxicity (Inhalation)			
Chemical	% Weight	Model	LD_{50} Range
$C_1 – C_3$	-	Rat	>1,464 mg/L/15 min
n-Butane	-	Rat	658 mg/L
Pentanes	-	Rat	> 18 mg/L
n-Hexane	-	Rat	169 mg/L
C_6-C_8 Aliphatic Hydrocarbons (minus n-hexane)	-	Rat	> 23 to > 33 mg/L
$C_{>8}$-C_{16} Aliphatic Hydrocarbons	-	Rat	24 mg/L
$C_{19} – C_{32}$ Aliphatic Hydrocarbons	-	Rat	> 5,000 mg/L
Benzene	-	Rat	31.9 mg/L
Ethylbenzene	No data available		
Toluene	-	Rat	>20 mg/L
Xylene	-	Rat	27.57 mg/L
Carbon dioxide	-	Rat	470,000 ppm
Nitrogen	No data available		
Hydrogen Sulfide	100%	Rat	380 – 1,500 mg/m^3

Skin corrosion and/or irritation: Moderately irritating to skin upon prolonged contact

Serious eye damage and/or eye irritation: Mild to moderate temporary irritation of the eyes upon direct contact

Respiratory sensitization: No data available
Skin sensitization: No evidence of skin sensitization
Germ cell mutagenicity: Evidence is generally negative
Reproductive toxicity: Evidence is generally negative
Specific target organ toxicity (single exposure): Asphyxiation, cardiac arrythmia, CNS effects
Specific target organ toxicity (repeated exposure): CNS Effects
Aspiration hazard: Not likely

(e) Carcinogenicity:

Carcinogenicity				
Compound	ACGIH	IARC	NTP	OSHA
$C_1 – C_3$	Not classified	Not classified	Not listed	Not classified
Butane	Not classified	Not classified	Not listed	Not classified
Pentanes	Not classified	Not classified	Not listed	Not classified
n-Hexane	Not classified	Not classified	Not listed	Not classified
C_6-C_8 Aliphatic Hydrocarbons (minus n-hexane)	Not classified	Not classified	Not listed	Not classified
$C_{>8}$-C_{16} Aliphatic Hydrocarbons	Not classified	Not classified	Not listed	Not classified
$C_{19} – C_{32}$ Aliphatic Hydrocarbons	Not classified	Not classified	Not listed	Not classified
Benzene	A1 – Confirmed Human Carcinogen	Group 1 – Carcinogenic to Humans	Known to be a human carcinogen	Carcinogen
Ethylbenzene	A3; Confirmed animal carcinogen with unknown relevance to humans.	Group 2B: Possibly carcinogenic to humans	Not listed	Not classified
Toluene	A4; Not classifiable as a human carcinogen.	Group 3 - Not classifiable as to its carcinogenicity to humans	Not listed	Not classified
Xylene	A4; Not classifiable as a human carcinogen.	Group 3 - Not classifiable as to its carcinogenicity to humans	Not listed	Not classified
Carbon dioxide	Not classified	Not classified	Not listed	Not classified
Nitrogen	Not classified	Not classified	Not listed	Not classified
Hydrogen sulfide	Not classified	Not classified	Not listed	Not classified

SECTION 12: ECOLOGICAL INFORMATION

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

(b) Persistence and degradability: Hydrocarbon gases are inherently biodegradable and not likely to remain in solution long enough for biodegradation to be a significant loss process.

(c) Bioaccumulative potential: Gas products readily evaporate.

(d) Mobility in soil: Petroleum gases will readily evaporate from the surface.

(e) Other adverse effects: Liquid release is only expected to cause localized freezing and other non-persistent environmental changes.

SECTION 13: DISPOSAL CONSIDERATIONS

It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations. This material is a gas and would not typically be managed as a waste.

Containers should be completely used and emptied prior to discarding. Dispose in accordance with the federal, state, and local laws and regulations. Do not discharge into areas where there is a risk of forming explosive mixtures with air. Waste gas should be flared through a suitable burner with flash back arrestor.

SECTION 14: TRANSPORT INFORMATION

SHIPPING NAME:	Natural gas, compressed	IATA HAZARD CLASS:	2.1
DOT HAZARD CLASS:	2.1	UN-No:	UN 1971
DOT SHIPPING ID:	Not Required	RID/ADR CODES:	
PACKING GROUP:	NA	PACKING GROUP:	
LABEL:	Flammable Gas	HAZARD ID:	2.1

Emergency Response Guide: 115

SECTION 15: REGULATORY INFORMATION

CERCLA/SARA-Section 302
This material does not contain chemicals subject to the reporting requirements of SARA Title III, Section 302

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

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

US EPCRA (SARA Title III) Section 313-Toxic Chemical: De minimis concentration

Component	De minimis
Benzene	0.1%
Toluene	1.0%
Ethylbenzene	0.1%
Xylenes	1.0%
n-Hexane	1.0%

CERCLA (Superfund) reportable quantity (lbs.)
EPA's Petroleum Exclusion applies to this material – (CERCLA 101(14)).

Canadian WHMIS Classification:

A: Compressed Gas 

B1: Flammable Gas 

HMIS®Hazard Rating: Health 1 (Slight)
Flammability 4 (Severe)
Reactivity 0 (Minimal)

California Proposition 65: Warning: This material may contain detectable quantities of the following chemicals, known to the State of California to cause cancer, birth defects or other reproductive harm, and which may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5): ethyl benzene, benzene, and toluene.

Component Analysis - State

Component	CAS	CA	MA	MN	NJ	PA	RI
Natural gas	8006-14-2	No	Yes	No	No	Yes	No
Methane	74-82-8	No	Yes	Yes	Yes	Yes	Yes
Ethane	74-84-0	No	Yes	Yes	Yes	Yes	Yes
Propane	74-98-6	No	Yes	Yes	Yes	Yes	Yes
Benzene	71-43-2	Yes	Yes	Yes	Yes	Yes	Yes
Toluene	108-88-3	Yes	Yes	Yes	Yes	Yes	Yes
Ethylbenzene	100-41-4	Yes	Yes	Yes	Yes	Yes	Yes
Hydrogen sulfide	7783-06-4	Yes	Yes	Yes	Yes	Yes	Yes

National Chemical Inventories:
All components are either listed on the US TSCA Inventory or are not regulated under TSCA.
All components are either on the DSL or are exempt from DSL listing requirements.

U.S. Export Control Classification Number: EAR99

SECTION 16: OTHER INFORMATION

This Safety Data Sheet is authored pursuant to the OSHA Hazard Communication/HazCom 2012 Final Rule.

COMMON TERMS AND ACRONYMS:

ACGIH: American Conference of Governmental Industrial Hygienists
C: Ceiling Limit
CAS#: Chemical Abstracts System Number
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CNS: Central Nervous System
DOT: Department of Transportation
DSL: Domestic Substance List

EC_{50}:	Effective concentration that inhibits the endpoint to 50% of control population
EINECS:	European List of Notified Chemical Substances
EPA:	U.S. Environmental Protection Agency
ESIS:	European Chemical Substances Information System
HMIS:	Hazardous Materials Identification System
IARC:	International Agency for Research on Cancer
IDLH:	Immediately Dangerous to Life and Health
IATA:	International Air Transport Association
IMDG:	International Maritime Dangerous Goods
LC_{50}:	Concentration of air resulting in death to 50% of experimental animals
LD_{50}:	Administered dose resulting in death to 50% of experimental animals
LEL:	Lower Explosive Limit
MSHA:	Mine Safety and Health Administration
NFPA:	National Fire Protection Association
NIOSH:	National Institute for Occupational Safety and Health
N/A:	Not Available
N/C:	Not Classified
N/D:	No data sufficient for classification
NE:	Not Established
NOAEC:	No Observed Adverse Effect Concentration
NTP:	National Toxicology Program
OECD:	Organisation for Economic Co-operation and Development
OSHA:	Occupational Safety and Health Administration
PEL:	Permissible Exposure Limit
PPE :	Personal Protective Equipment
RCRA:	Resource Conservation and Recovery Act
SARA:	Superfund Amendments and Reauthorization Act
SCBA:	Self-Contained Breathing Apparatus
STEL:	Short Term Exposure Limit
STP:	Standard Temperature and Pressure
TLV:	Threshold Limit Value
TSCA:	Toxic Substances Control Act
TWA:	Time Weighted Average
UEL:	Upper Explosive Limit
WHMIS:	Workplace Hazardous Materials Information System

Disclaimer:

The information presented herein has been compiled from sources considered to be dependable and is accurate and reliable to the best of our knowledge and belief, but it is not guaranteed to be so. Since conditions of use are beyond our control, we make no warranties, expressed or implied, except those that may be contained in our written contract of sale or acknowledgement.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material, even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in their use of the material.

Date of SDS Revisions:	Version 1.2 – 9/24/2019 (HSER)
	Version 1.1 – 5/24/2018 (EHS&R)
Date of SDS Preparation:	5/27/2015
SDS Prepared by:	Center for Toxicology and Environmental Health, LLC.