

# SAFETY DATA SHEET

Halcón Resources



Date Issued : 11/07/2012

SDS No : HA201-004

## Natural Gas

### 1. PRODUCT AND COMPANY IDENTIFICATION

**PRODUCT NAME:** Natural Gas

**DISTRIBUTOR**

Halcón Resources  
1000 Louisiana St. Suite 6700  
Houston, TX 77002

**24 HR. EMERGENCY TELEPHONE NUMBERS**

(713) 345-1060





Emergency Telephone Number(s) may be used for any type of emergency response, hazmat, regulatory responding, or DOT information regarding this product.

### 2. HAZARDS IDENTIFICATION

**GHS CLASSIFICATIONS**

Health	Physical
Carcinogen, Category 1 Target Organ Toxicity (Single exposure), Category 3 Simple Asphyxiant	Flammable Gases, Category 1 Gases Under Pressure, Compressed gas

**GHS LABEL**

	 Exclamation mark
WARNING	
H000: May displace oxygen and cause rapid suffocation.	
	WARNING
	H336: May cause drowsiness or dizziness.
 Flame	 Gas cylinder
DANGER	WARNING
H220: Extremely flammable gas.	H280: Contains gas under pressure; may explode if heated.
 Health hazard	
DANGER	
H350: May cause cancer.	

**PRECAUTIONARY STATEMENT(S)**

**Prevention:**

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

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P210: Keep away from heat/sparks/open flames/hot surfaces – no smoking.

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P271: Use only outdoors or in a well-ventilated area.

P281: Use personal protective equipment as required.

### Response:

P304+P340: IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

P312: Call a POISON CENTER or doctor/physician if you feel unwell.

P311: Call a POISON CENTER or doctor/physician.

P391: Collect spillage.

P381: Eliminate all ignition sources if safe to do so.

P308+P313: IF exposed or concerned: Get medical advice/attention.

P377: Leaking gas fire: Do not extinguish unless leak can be stopped safely.

P321: Specific treatment as indicated (see potential Health, Environmental, and Physical hazards presented on this label).

### Storage:

P410+P403: Protect from sunlight. Store in a well-ventilated place.

P403+P233: Store in a well-ventilated place. Keep container tightly closed.

P405: Store locked up.

### Disposal:

P501: Dispose of contents/container in accordance with local/regional/national/international regulations.

## EMERGENCY OVERVIEW

**PHYSICAL APPEARANCE:** Colorless gas.

### IMMEDIATE CONCERNS:

**HAZARD DESCRIPTION / WARNING INFORMATION SUMMARY** - This product is a flammable gas which can form explosive mixtures with air. Material can accumulate static charges which may cause an ignition. Asphyxiant hazard if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. Please read entire contents of Section 2 of this Safety Data Sheet (SDS) for details.

## POTENTIAL HEALTH EFFECTS

**EYES:** Direct contact with liquefied gas may cause severe and possibly permanent eye injury due to frostbite from rapid liquid evaporation.

**SKIN:** Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.

**SKIN ABSORPTION:** May be harmful in contact with skin.

**INGESTION:** This product is a compressed gas; hence oral exposure and resulting acute toxicity are unlikely.

**INHALATION:** High concentrations in immediate area can displace oxygen and can cause dizziness, unconsciousness, and even death with longer exposure. Keep people away from such vapors without self-contained breathing apparatus.

## SIGNS AND SYMPTOMS OF OVEREXPOSURE

**ACUTE TOXICITY:** May cause irritation if in contact with eyes and skin. May be fatal if inhaled in high concentrations. The immediately dangerous to life and health (IDLH) value for Hydrogen Sulfide is 100 ppm.

**CHRONIC EFFECTS:** Chronic exposure to benzene may cause serious damage to health by all routes of exposure. Chronic oral and inhalation exposure may cause severe effects on the blood system, including damage to the bone marrow, leading to a decrease in production or changes to the cells of hemoglobin, hematocrit, red and white blood cells. Effects may occur with an exposure level as low as 10 ppm for 24 weeks. Benzene may also cause harmful changes to the immune system. Benzene is a confirmed human carcinogen. See Section 11 (Toxicological Information) for further information.

**CARCINOGENICITY:** OSHA reports an 8-hour TWA of 1ppm. The NTP and IARC list benzene as a "human carcinogen."

**MUTAGENICITY:** Not Established.

## REPRODUCTIVE TOXICITY

**REPRODUCTIVE EFFECTS:** Not Established.

**MEDICAL CONDITIONS AGGRAVATED: Benzene** - Pre-existing blood system disorders, respiratory conditions, central nervous, liver, kidney, and cardio-vascular conditions may be aggravated by severe or chronic overexposure to benzene. Skin disorders may also be aggravated by exposures to benzene.

**ROUTES OF ENTRY:** Inhalation, skin contact, eye contact.

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### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Wt.%	CAS	EINECS	Classification
Natural Gas	100	8006-14-2	232-343-9	
Hydrogen Sulfide	~ 0.1 - 10	7783-06-4	231-977-3	F+, T+, N; R12, R26, R50
Benzene	~ 0.1 - 0.5	71-43-2	200-753-7	F, T; R45, R46, R11, R36/38, R48/23/24/25, R65

**COMMENTS:** This product may include components not listed. Natural gasoline is a mixture of hundreds of hydrocarbon compounds and may contain benzene, a known human carcinogen. Components with percent weight preface with "~" are typical ranges found for compounds in natural gasoline

( Full text of R-Phrases can be found under heading 16 )

### 4. FIRST AID MEASURES

**EYES:** Immediately flush with large amounts of water, holding eyelids open, for at least 20 minutes. Repeat if necessary. Remove contact lenses, if present and easy to do. Seek medical assistance if irritation persists.

**SKIN:** Immediately remove contaminated clothing or shoes, wipe excess from skin and flush with plenty of water for at least 15 minutes. Use soap if available or follow by washing with soap and water. Do not reuse clothing until thoroughly cleaned. Get medical attention.

**INGESTION:** Do not induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

**INHALATION:** Move victim to fresh air. Call 911, emergency medical service, or Emergency Phone Numbers(s) provided in Section 1 of this SDS. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult.

**ANTIDOTES:** Not Established.

**NOTES TO PHYSICIAN:** In cases of acute poisoning, artificial respiration with administration of oxygen may be useful for support. DO NOT GIVE EPINEPHRINE, EPHEDRINE OR SIMILAR ADRENERGIC DRUGS. THEY MAY INDUCE FATAL VENTRICULAR FIBRILLATION. Electrocardiographic monitoring should be carried out with severely ill patients to anticipate possible cardiac arrest.

Federal regulations (29 CFR 1910.1028) specify medical surveillance programs for certain exposures to benzene above the action level or PEL (specified in Section (i)(1)(i) of the Standard). In addition, employees exposed in an emergency situation shall, as described in Section (i)(4)(i), provide a urine sample at the end of the shift for measurement of urine phenol.

**ADDITIONAL INFORMATION:** Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. First Aid Responders are advised to wear personal protective equipment as found in Section 8 of this SDS.

**COMMENTS: CONTRAINDICATIONS** - Not Established.

### 5. FIRE FIGHTING MEASURES

**FLASH POINT:** -188 °C (-306 °F)

**FLAMMABLE LIMITS:** 5 to 17

**Notes:** Flammable Limits given as percentage volume in air at normal atmospheric temperature and pressure.

**AUTOIGNITION TEMPERATURE:** Not Established.

**FLAMMABLE CLASS:** Class B.

**GENERAL HAZARD: DECOMPOSITION TEMPERATURE** - Under normal conditions of storage and use, hazardous decomposition products should not be produced.

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### EXTINGUISHING MEDIA:

**SMALL FIRE** - Class B fire extinguisher, carbon dioxide, multipurpose dry chemical, water fog or alcohol-resistant foam.

**LARGE FIRE** - Water fog or alcohol-resistant foam.

**HAZARDOUS COMBUSTION PRODUCTS:** Any combustion, including incomplete combustion, may form carbon monoxide and carbon dioxide. Burning produces noxious and toxic fumes. This product may contain hydrogen sulfide, which produces toxic sulfur dioxide gas upon combustion. Downwind personnel must be evacuated.

**OTHER CONSIDERATIONS: INAPPROPRIATE EXTINGUISHING MEDIA** - Do not use water jet.

### FIRE FIGHTING PROCEDURES:

**PROTECTIVE ACTIONS TO TAKE DURING FIRE FIGHTING** - DO NOT extinguish a leaking gas flame unless the leak can be stopped. In many cases it will be preferable to allow continued burning. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. Use water spray or fog; do not use straight streams. Note: Use of water spray when fighting fire may be inefficient or cause a chemical reaction. Persons involved in fire fighting response involving this product and its containers/packaging should refer to Section 8 of this SDS for the proper selection of exposure controls and personal protective equipment.

**FIRE FIGHTING EQUIPMENT: PRECAUTIONS FOR FIRE INVOLVING TANKS OR CAR/TRAILER LOADS** - Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**SENSITIVITY TO IMPACT:** Not Established.

### COMMENTS:

**SPECIFIC HAZARDS THAT MAY ARISE FROM THE PRODUCT** - Vapors are flammable and heavier than air. Vapors may travel across the ground and reach remote ignition sources causing a flashback fire danger. Sudden reaction and fire may result if product is mixed with an oxidizing agent.

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## 6. ACCIDENTAL RELEASE MEASURES

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**SMALL SPILL:** For emergency information and procedures to follow in the case of an accidental release, call the Emergency Telephone Number(s) listed in Section 1 of this SDS. Remove any ignition sources and protect from ignition. All equipment used when handling the product must be grounded. Do not touch or walk through area of release. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact released material. Do not direct water at source of leak. Water spray may reduce vapor; but may not prevent ignition in closed spaces. A vapor suppressing foam may be used to reduce vapors. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. Provide sufficient ventilation in the affected area(s) and wear appropriate personal protective equipment as indicated in Section 8 of this SDS when handling released material.

**LARGE SPILL:** Use similar response procedures as indicated under Small Spill.

### GENERAL PROCEDURES: MATERIALS & METHODS (EQUIPMENT & TECHNIQUES) FOR CONTAINMENT & CLEANUP -

Call Emergency Telephone Number(s) provided in Section 1 of this SDS. As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Keep unauthorized personnel away. Stay upwind. Keep out of low areas. Ventilate closed spaces before entering.

**RELEASE NOTES: ENVIRONMENTAL PRECAUTIONS** - Avoid contact of spilled material with soil and prevent runoff entering surface waterways. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**SPECIAL PROTECTIVE EQUIPMENT: EMERGENCY & NON-EMERGENCY RESPONDERS** - Refer to Section 8 of this SDS for appropriate exposure controls and personal protective equipment (PPE).

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## 7. HANDLING AND STORAGE

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**GENERAL PROCEDURES:** Handle in accordance with good industrial hygiene and safety practices. These practices include but are not limited to avoiding unnecessary exposure and prompt removal of material from eyes, skin and clothing. If needed, take first aid actions as indicated in Section 4 of this SDS. Consult US National Fire Protection Association (NFPA) standard for the storage and handling of liquefied petroleum gases (NFPA No. 58) for additional recommendations.

**HANDLING:** Use only with adequate ventilation. Wear appropriate personal protective equipment and use exposure controls as indicated in Section 8 of this SDS. Avoid contact with skin and eyes. Avoid breathing gas. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Do not reuse container. Remove contaminated clothing immediately. Wash with soap and water after working with this product.

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**STORAGE:** Keep in airtight container away from all heat sources. Store in a segregated and approved area. Store in a cool, dry location, away from direct sunlight, sources of intense heat, or where freezing is possible. Keep container in a well-ventilated area. Store away from incompatible materials. Store in the original container or an approved alternative made from compatible material. Do not store in unlabeled containers. Treat empty containers in a similar fashion as residual product may exist. Use appropriate containment to avoid environmental contamination.

**STORAGE TEMPERATURE:** Store containers in a room with ambient temperature.

**STORAGE PRESSURE:** Store in a room with ambient pressure.

### SHELF LIFE:

**HOW TO MAINTAIN THE INTEGRITY OF THE SUBSTANCE BY USE OF STABILIZERS OR ANTIOXIDANTS** - Not Established.

### SPECIAL SENSITIVITY:

**HOW TO CONTROL THE EFFECTS OF WEATHER CONDITIONS, SUNLIGHT, HUMIDITY & VIBRATION** - Not Established.

**ELECTROSTATIC ACCUMULATION HAZARD:** To minimize the hazard of static electricity during transfer operations, bonding and grounding may be necessary, but may not by themselves be sufficient. For more information, refer to OSHA Standard 29 CFR 1910.106; National Fire Protection Standard (NFPA) 77 - "Recommended Practice on Static Electricity"; and/or the American Petroleum Institute (API) Recommended Practice 2003 - "Protection Against Ignitions Arising Out of Static, Lighting and Stray Currents."

### COMMENTS:

**HOW TO AVOID EXPLOSIVE ATMOSPHERES, CORROSIVE CONDITIONS, FLAMMABILITY HAZARDS, EVAPORATIVE CONDITIONS & POTENTIAL IGNITION SOURCES** - Not Established.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE GUIDELINES

OSHA HAZARDOUS COMPONENTS (29 CFR1910.1200)					
		EXPOSURE LIMITS			
		OSHA PEL		ACGIH TLV	
Chemical Name		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Natural Gas	TWA	N/E	N/E	N/E	N/E
	STEL	N/E	N/E	N/E	N/E
Hydrogen Sulfide	TWA	N/E	N/E	1	1.4
	STEL	C20 [1]	N/E [1]	5	7
Benzene	TWA	1	N/E	0.5	N/E
	STEL	5	N/E	2.5	N/E

**Footnotes:**  
1. OSHA has also assigned H<sub>2</sub>S a STEL value of 50 ppm for a 10-minute peak that may be reached only once per 8-hour shift.  
C = Ceiling

**ENGINEERING CONTROLS:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

### PERSONAL PROTECTIVE EQUIPMENT

**EYES AND FACE:** Employees should be provided with and required to use splash-proof safety goggles and splash shields where there is any possibility of product coming in contact with eyes. Ensure that eye wash station is operable and nearby.

**SKIN: GLOVES AND BOOTS** - Any impervious gloves and boots including butyl rubber, nitrile rubber or neoprene rubber.

**RESPIRATORY:** Half-face or full-face elastomeric respirator equipped with at least organic vapor cartridges. Or wear positive pressure self-contained breathing apparatus (SCBA).

**PROTECTIVE CLOTHING:** Long sleeve shirt and long pants or coveralls. Consider wearing butyl rubber apron or outerwear where splashing may occur. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.

**WORK HYGIENIC PRACTICES:** Consider the potential hazards of this material, applicable exposure limits, job activities,

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environmental working conditions, and other substances in the workplace when designing engineering controls and selecting personal protective equipment (PPE). The user should read and understand all manufacturer instructions and limitations supplied with the personal protection equipment before use.

**OTHER USE PRECAUTIONS: PROTECTION FROM THERMAL, FIRE & CHEMICAL HAZARDS** - Refer to Prevention Phrases listed under Precautionary Statement(s) in Section 2 of this SDS.



COMMENTS: PPE-

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**ODOR:** Hydrocarbon.

**APPEARANCE:** Colorless compressed or liquefied gas.

**pH:** Not Established.

**PERCENT VOLATILE:** 100

**VAPOR PRESSURE:** 250-275 PSIA at 38°C (100°F)

**VAPOR DENSITY:** 0.6 (Air = 1)

**BOILING POINT:** -157°C (-251°F) to -107°C (-161°F)

**FREEZING POINT:** Not Established.

**FLASH POINT:** -188°C (-306°F)

**SOLUBILITY IN WATER:** Slight.

**EVAPORATION RATE:** Not Established.

**SPECIFIC GRAVITY:** ~ 0.500 to 0.7 at 20°C (68°F)

**COEFF. OIL/WATER:**

**PARTITION COEFF. n-OCTANOL/WATER** - Not Established.

**ODOR THRESHOLD:** Not Established.

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## 10. STABILITY AND REACTIVITY

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**STABLE:** Yes

**HAZARDOUS POLYMERIZATION:** No

**STABILITY:** This product is anticipated to be stable under normal ambient storage and handling conditions of temperature and pressure.

**POLYMERIZATION:** This product is not anticipated to cause hazardous reactions or polymerizations under normal ambient storage and handling conditions of temperature and pressure.

**CONDITIONS TO AVOID:** Keep away from sparks and open flames. Do not cut or weld on empty drums. Avoid incompatible materials.

**POSSIBILITY OF HAZARDOUS REACTIONS:** This product may be chemically reactive under certain circumstances. Avoid adverse conditions and incompatible materials.

**HAZARDOUS DECOMPOSITION PRODUCTS:** This product may produce carbon oxides and nitrogen oxides during decomposition.

**INCOMPATIBLE MATERIALS:** Avoid contact with strong oxidizing agents, strong acids, aluminum chloride, chlorine, chlorine dioxide and halogens. Refer to Section 5 in this SDS for additional information.

**COMMENTS: STABILIZERS** - Not Established.

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### 11. TOXICOLOGICAL INFORMATION

#### ACUTE

Chemical Name	ORAL LD <sub>50</sub> (rat)	DERMAL LD <sub>50</sub> (rabbit)	INHALATION LC <sub>50</sub> (rat)
Natural Gas	Not Established.	Not Established.	> 800000 ppm (15 min)
Hydrogen Sulfide	Not Established.	Not Established.	444 ppm
Benzene	930 mg/kg	> 9400 ug/kg	10000 ppm (7 hours)

**NOTES: ACUTE: TOXICITY & HEALTH EFFECTS** - Exposure may cause gastrointestinal effects, respiratory effects, or dermal effects depending on route of exposure. Contact with this product may irritate or burn skin and eyes. Refer to Section 2 of this SDS for additional hazards identification.

**EYE EFFECTS:** Direct contact with liquefied/pressurized gas or frost particles may cause severe eye damage.

**SKIN EFFECTS:** Not expected to be irritating but contact with liquefied or pressurized gas may cause frostbite.

**CHRONIC: TOXICITY & HEALTH EFFECTS** - Prolonged contact with product/repeated exposure may cause adverse health effects depending on route of exposure.

#### CARCINOGENICITY

Chemical Name	NTP Status	IARC Status	OSHA Status
Benzene	1	1	Carcinogen.

**Notes:** This material may contain benzene. Benzene is carcinogenic to laboratory animals when given by intubation or by inhalation. There is an association between occupational exposure to benzene and human leukemia. Acute benzene poisoning causes central nervous system depression. Chronic exposure affects the hematopoietic system causing blood disorders including anemia and pancytopenia. Mutagenic and clastrogenic in mammalian and non-mammalian test systems. Reproductive or developmental toxicant only at doses that are maternally toxic, based on tests with animals.

**REPEATED DOSE EFFECTS: TARGET ORGANS** - Repeated exposure may cause respiratory, skin, eye and gastrointestinal depending on routes of exposure.

**SENSITIZATION:** Not Established.

**NEUROTOXICITY:** Not Established.

**GENETIC EFFECTS:** Not Established.

**REPRODUCTIVE EFFECTS:** Not Established.

#### TARGET ORGANS:

**SINGLE EXPOSURE** - Exposure may have adverse health effects.

**TERATOGENIC EFFECTS:** Not Established.

**MUTAGENICITY:** Not Established.

**GENERAL COMMENTS: INTERACTIVE EFFECTS** - Not Established.

### 12. ECOLOGICAL INFORMATION

**ENVIRONMENTAL DATA:** Due to the extreme volatility of petroleum gases, air is the only environmental compartment in which they will be found. In air, these hydrocarbons undergo photodegradation by reaction with hydroxyl radicals with half-lives ranging from 3.2 days to 7 days, depending on the component.

**ECOTOXICOLOGICAL INFORMATION:** This product has no known ecotoxicological effects.

#### TERRESTRIAL/MICROORGANISM TOXICITY -

**ACUTE:** Ecological data does not exist for this mixture.

**CHRONIC:** Ecological data does not exist for this mixture.

**BIOACCUMULATION/ACCUMULATION:** This product is not expected to bioaccumulate.

**AQUATIC TOXICITY (ACUTE):** This product is not expected to be harmful to aquatic life.

**CHEMICAL FATE INFORMATION: PERSISTENCE AND DEGRADABILITY** - The hydrocarbons in this material area expected to

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be inherently biodegradable. In practice, hydrocarbon gases are not likely to remain in solution long enough for biodegradation to be a significant loss process. Hydrogen sulfide will be rapidly oxidized in water and insoluble sulfides precipitated from water when metallic radicals are present.

**GENERAL COMMENTS:** Any other adverse environmental effects, such as environmental fate (exposure), ozone depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and global warming potential are indicated in this section if data exists. Otherwise, this data has not been established.

**COMMENTS:** Data from laboratory studies and from scientific literature is noted in this section if available. Otherwise, data has not been established.

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### 13. DISPOSAL CONSIDERATIONS

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**DISPOSAL METHOD:** It is recommended that this product be incinerated in a suitable combustion chamber for disposal. Extra care should be taken in igniting this material as it is highly flammable.

**PRODUCT DISPOSAL:** Persons conducting disposal of this product and its containers/packaging should refer to Section 8 of this SDS for the proper selection of exposure controls and personal protective equipment.

**EMPTY CONTAINER: DISPOSAL -** Not Established.

**RCRA/EPA WASTE INFORMATION:** This product is a gas and would not typically be managed as a waste.

**COMMENTS:** Dispose of material in accordance with national, state, regional, and local regulations. Never discharge directly into sewers or surface waters. Consult with environmental regulatory agencies for guidance on acceptable disposal practices for the product, in any form, and its containers/packaging.

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### 14. TRANSPORT INFORMATION

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#### DOT (DEPARTMENT OF TRANSPORTATION)

**PROPER SHIPPING NAME:** Compressed gas, flammable, n.o.s.

**PRIMARY HAZARD CLASS/DIVISION:** 2.1

**UN/NA NUMBER:** 1953

**NAERG:** 119

**LABEL:** 2.1: Flammable Gas

**MARINE POLLUTANT #1:** Not Listed.

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### 15. REGULATORY INFORMATION

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#### UNITED STATES

##### DOT LABEL SYMBOL AND HAZARD CLASSIFICATION



Flammable Gas

#### SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

**311/312 HAZARD CATEGORIES:** Fire Hazard. Immediate (Acute) Health Hazard. Delayed (chronic) health hazard. Sudden release of pressure.

**FIRE:** Yes **PRESSURE GENERATING:** Yes **REACTIVITY:** No **ACUTE:** Yes **CHRONIC:** Yes

#### EPCRA SECTION 313 SUPPLIER NOTIFICATION

Chemical Name	Wt.%	CAS
Hydrogen Sulfide	~ 0.1 - 10	7783-06-4
Benzene	~ 0.1 - 0.5	71-43-2

#### CERCLA (COMPREHENSIVE RESPONSE, COMPENSATION, AND LIABILITY ACT)

Chemical Name	Wt.%	CERCLA RQ
Hydrogen Sulfide	~ 0.1 - 10	100
Benzene	~ 0.1 - 0.5	10



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### TSCA (TOXIC SUBSTANCE CONTROL ACT)

Chemical Name	CAS
Hydrogen Sulfide	7783-06-4
Benzene	71-43-2

### CLEAN AIR ACT

Chemical Name	Wt.%	CAS
Hydrogen Sulfide	~ 0.1 - 10	7783-06-4

### STATES WITH SPECIAL REQUIREMENTS

Chemical Name	Requirements
Hydrogen Sulfide	CA Hazardous Substance Delaware Air Quality Management Idaho Air Pollutant Massachusetts Hazardous Substance Maine Hazardous Air Pollutant Minnesota Hazardous Substance New Jersey RTK Hazardous Substance New Jersey TCPA EHS New York Hazardous Substance North Carolina Toxic Air Contaminant Pennsylvania Hazardous Substance Washington PELs for Air Contaminants Wisconsin Hazardous Air Containment
Benzene	CA Hazardous Substance Delaware Air Quality Management Illinois Toxic Air Contaminant Maine Hazardous Air Pollutant Massachusetts Hazardous Substance Michigan Critical Material Minnesota Hazardous Substance New Jersey RTK Hazardous Substance New York Hazardous Substance North Carolina Toxic Air Contaminant Pennsylvania Hazardous Substance Washington PELs for Air Contaminants West Virginia Toxic Air Pollutant Wisconsin Hazardous Air Containment

**CALIFORNIA PROPOSITION 65:** Benzene is known to the State of California to cause cancer and is listed on the California Proposition 65 Lists.

Chemical Name	Wt.%	Listed
Benzene	~ 0.1 - 0.5	<ul style="list-style-type: none"> <li>● Developmental Toxicity</li> <li>● Male Reproductive</li> </ul>

## 16. OTHER INFORMATION

**RELEVANT R-PHRASES:**R12: Extremely flammable.

R26: Very toxic by inhalation.

R50: Very toxic to aquatic organisms.

R45: May cause cancer.

R46: May cause heritable genetic damage.

R11: Highly flammable.

R36/38: Irritating to eyes and skin.

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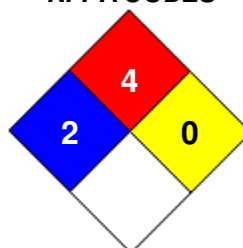
R65: Harmful: may cause lung damage if swallowed.

PREPARED BY: Total Safety U.S., Inc. d/b/a EHS Services

### HMIS RATING

HEALTH	*	2
FLAMMABILITY		4
PHYSICAL HAZARD		0
PERSONAL PROTECTION		G

### NFPA CODES



**HMIS RATINGS NOTES:** Please refer to Section 8 of this SDS for recommended personal protective equipment.

### DATA SOURCES:

#### REFERENCES

ACGIH. 2012 Guide to Occupational Exposure Values. Cincinnati, OH. Signature Publications, 2012.

Forsberg, K.; Mansdorf, S.Z. Quick Selection Guide to Chemical Protective Clothing. Fifth Edition. Hoboken, NJ. John Wiley & Sons, 2007.

Lide, D.R. CRC Handbook of Chemistry and Physics. 88th Edition. Boca Raton, FL. CRC Press, 2008.

UNECE. Globally Harmonized System of Classification and labelling of Chemicals (GHS). Third Revised Edition. New York and Geneva. United Nations, 2009.

US DOT; Pipeline and Hazardous Materials Safety Administration. 2008 Emergency Response Guidebook. Neenah, WI. J.J. Keller & Associates, Inc. 2008.

US EPA. Consolidated List of Chemicals Subject to the Emergency Planning and Community Right-To-Know Act (EPCRA) and Section 112(r) of the Clean Air Act. [Available] Online: <http://www.epa.gov/ceppo/pubs/title3.pdf>. Retrieved 02/02/2011.

### ADDITIONAL MSDS INFORMATION:

#### KEY / LEGEND

ACGIH - American Conference of Governmental Industrial Hygienists

ADR - Agreement on Dangerous Goods by Road

CAA - Clean Air Act

CAS - Chemical Abstracts Service Registry Number

CDG - Carriage of Dangerous Goods By Road and Rail Manual

CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

CFR - Code of Federal Regulations

EINECS - European Inventory of Existing Chemical Substances Registry Number

ERG - Emergency Response Guidebook

EPCRA - Emergency Planning and Community Right-to-Know Act

GHS - Globally Harmonized System of Classification and Labelling of Chemicals

IARC - International Agency for Research on Cancer

IATA - International Air Transport Association

ICAO - International Civil Aviation Organization

IMDG - International Maritime Dangerous Goods Code

IMO - International Maritime Organization

MSDS - Material Safety Data Sheet

N/E - Not Established

NTP - National Toxicology Program

OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit

PPE - Personal Protective Equipment

RCRA - Resource Conservation and Recovery Act

RID - Regulations Concerning the International Transport of Dangerous Goods by Rail

RQ - Reportable Quantities

SARA - Superfund Amendments and Reauthorization Act of 1986

SDS - Safety Data Sheet

TCC - Tag Closed Cup

TDG - Transportation of Dangerous Goods

TLV - Threshold Limit Value

## **Natural Gas**

TSCA - Toxic Substance Control Act

UN/NA - United Nations / North American Number

UNECE - United Nations Economic Commission for Europe

US DOT - United States Department of Transportation

US EPA - United States Environmental Protection Agency

Vol. - Volume

WHMIS - Workplace Hazardous Materials Information System

**GENERAL STATEMENTS:** Other information not included anywhere else in this SDS is included in this section if, in fact, such data exists.

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