

# SAFETY DATA SHEET

## 1. Identification

**Product identifier** Natural Gas - Sweet

**Other means of identification**

**Synonyms** Well head natural gas

**Recommended use** Not available.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Company name** Red Willow Production Company

**Address** PO Box 369  
Ignacio, Colorado 81137

**Telephone** 970-563-5100

**E-mail** rlehr@rwpc.us

**Contact person** Ray Lehr

**Emergency phone number** 970-442-1443

## 2. Hazard(s) identification

**Physical hazards** Flammable gases Category 1  
Gases under pressure Compressed gas

**Health hazards** Not classified.

**OSHA defined hazards** Simple asphyxiant

**Label elements**



**Signal word** Danger

**Hazard statement** Extremely flammable gas. Contains gas under pressure; may explode if heated.

**Precautionary statement**

**Prevention** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**Response** Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.

**Storage** Store in a well-ventilated place.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	CAS number	%
Methane	74-82-8	70 - 90
Ethane	74-84-0	0 - 15
Butane	106-97-8	0 - 10

**Composition comments** All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

## 4. First-aid measures

<b>Inhalation</b>	If symptomatic, move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Skin contact</b>	Get medical attention if irritation develops and persists.
<b>Eye contact</b>	Get medical attention if irritation develops or persists.
<b>Ingestion</b>	This material is a gas under normal atmospheric conditions and ingestion is unlikely.
<b>Most important symptoms/effects, acute and delayed</b>	Narcosis.
<b>Indication of immediate medical attention and special treatment needed</b>	Treat symptomatically.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

## 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Extinguish with foam, carbon dioxide, dry powder or water fog.
<b>Unsuitable extinguishing media</b>	None known.
<b>Specific hazards arising from the chemical</b>	Gas may travel considerable distance to a source of ignition and flash back. Gases may form explosive mixtures with air.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Stop flow of gas. Close the valve if no risk is involved. Do not extinguish a leaking gas fire unless leak can be stopped. If leak cannot be stopped and no danger to surrounding area allow the fire to burn out. Cool containers exposed to flames with water.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Stay upwind. If leakage cannot be stopped, evacuate area. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Check oxygen content before entering the area. Avoid contact with cold gas. Wear appropriate personal protective equipment (See Section 8).
<b>Methods and materials for containment and cleaning up</b>	Ventilate the contaminated area.
<b>Environmental precautions</b>	Stop leak if possible without any personal risk.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Eliminate all sources of ignition. Do not breathe gas. Before entering storage tanks and commencing any operation in a confined area, check the atmosphere for oxygen content and flammability. Use non-sparking hand tools and explosion-proof electrical equipment. Ground container and transfer equipment to eliminate static electric sparks. Wear appropriate thermal protective clothing, when necessary. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Flammable compressed gas storage. Keep container tightly closed in a cool, well-ventilated place. Secure cylinders in an upright position at all times, close all valves when not in use. Store away from incompatible materials.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Butane (CAS 106-97-8)	STEL	1000 ppm

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Butane (CAS 106-97-8)	TWA	1900 mg/m <sup>3</sup> 800 ppm

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Exposure guidelines</b>	No exposure standards allocated.

<b>Appropriate engineering controls</b>	Provide shower facilities near the work place. In confined spaces, make sure the area is well-ventilated and sufficient oxygen (19.5%) exists before entry. Good general ventilation (typically 10 air changes per hour) should be used. 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. If exposure limits have not been established, maintain airborne levels to an acceptable level. Use explosion-proof equipment.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Risk of contact: Wear goggles/face shield.
<b>Skin protection</b>	
<b>Hand protection</b>	Risk of contact: Wear cold insulating gloves. Suitable gloves can be recommended by the glove supplier.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever work place conditions warrant a respirator's use. Seek advice from local supervisor.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	Gas.
<b>Form</b>	Compressed gas.
<b>Color</b>	Colorless.
<b>Odor</b>	Odorless.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	-292 °F (-180 °C)
<b>Initial boiling point and boiling range</b>	-238 °F (-150 °C)
<b>Flash point</b>	< -238.0 °F (< -150.0 °C)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Extremely flammable gas.

### Upper/lower flammability or explosive limits

<b>Flammability limit - lower (%)</b>	3
<b>Flammability limit - upper (%)</b>	15
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	0.5 - 0.94
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Negligible
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	725 - 998.6 °F (385 - 537 °C)
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

**Other information**

<b>Explosive properties</b>	Explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Percent volatile</b>	100

**10. Stability and reactivity**

<b>Reactivity</b>	The product is non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Stable under normal temperature conditions and recommended use.
<b>Possibility of hazardous reactions</b>	Polymerization will not occur.
<b>Conditions to avoid</b>	Heat, sparks, flames, elevated temperatures. Do not pressurize, cut, weld, braze, solder, drill, grind or expose empty containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode and cause injury or death.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

**11. Toxicological information****Information on likely routes of exposure**

<b>Inhalation</b>	Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels. In high concentrations, vapors are narcotic and may cause headache, fatigue, dizziness and nausea.
<b>Skin contact</b>	Not classified.
<b>Eye contact</b>	Not classified.
<b>Ingestion</b>	This material is a gas under normal atmospheric conditions and ingestion is unlikely.

**Symptoms related to the physical, chemical and toxicological characteristics**

Narcosis. Behavioral changes. Decrease in motor functions.

**Information on toxicological effects**

<b>Acute toxicity</b>	Suffocation (asphyxiant) hazard - if allowed to accumulate to concentrations that reduce oxygen below safe breathing levels.
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<b>Components</b>	<b>Species</b>	<b>Test Results</b>
Butane (CAS 106-97-8)		
<b>Acute</b>		
<i>Inhalation</i>		
LC50	Rat	658 mg/l, 4 Hours
<b>Skin corrosion/irritation</b>	Not classified.	
<b>Serious eye damage/eye irritation</b>	Not classified.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not classified.	
<b>Skin sensitization</b>	Not a skin sensitizer.	
<b>Germ cell mutagenicity</b>	Not classified.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by NTP, IARC, or OSHA.	
<b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>	Not listed.	
<b>Reproductive toxicity</b>	Not classified.	
<b>Specific target organ toxicity - single exposure</b>	Not classified.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	
<b>Aspiration hazard</b>	Not applicable.	

## 12. Ecological information

<b>Ecotoxicity</b>	Not expected to be harmful to aquatic organisms.
<b>Persistence and degradability</b>	No data available.
<b>Bioaccumulative potential</b>	No data available.

### Partition coefficient n-octanol / water (log Kow)

Butane (CAS 106-97-8)	2.89
Ethane (CAS 74-84-0)	1.81
Methane (CAS 74-82-8)	1.09

<b>Mobility in soil</b>	Not relevant, due to the form of the product.
<b>Mobility in general</b>	The product is a volatile substance, which may spread in the atmosphere.
<b>Other adverse effects</b>	None known.

## 13. Disposal considerations

<b>Disposal instructions</b>	The packaging should be collected for reuse.
<b>Local disposal regulations</b>	Disposal recommendations are based on material as supplied. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.
<b>Hazardous waste code</b>	D001: Waste Flammable material with a flash point <140 °F
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Since emptied containers may retain product residue, follow label warnings even after container is emptied.

## 14. Transport information

### DOT

<b>UN number</b>	UN1971
<b>UN proper shipping name</b>	Natural gas, compressed (with high methane content) (Methane RQ = 143 LBS)
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	2.1
<b>Packing group</b>	Not applicable.
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>Packaging exceptions</b>	306
<b>Packaging non bulk</b>	302
<b>Packaging bulk</b>	302

### IATA

<b>UN number</b>	UN1971
<b>UN proper shipping name</b>	Methane, compressed
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	No.
<b>ERG Code</b>	10L
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

### IMDG

<b>UN number</b>	UN1971
<b>UN proper shipping name</b>	NATURAL GAS, COMPRESSED with high methane content
<b>Transport hazard class(es)</b>	
<b>Class</b>	2.1
<b>Subsidiary risk</b>	-
<b>Packing group</b>	Not applicable.
<b>Environmental hazards</b>	
<b>Marine pollutant</b>	No.
<b>EmS</b>	F-D, S-U
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

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

## 15. Regulatory information

**US federal regulations** This product is hazardous according to OSHA 29 CFR 1910.1200.

### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

### CERCLA Hazardous Substance List (40 CFR 302.4)

Butane (CAS 106-97-8)	LISTED
Ethane (CAS 74-84-0)	LISTED
Methane (CAS 74-82-8)	LISTED

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - Yes  
Pressure Hazard - Yes  
Reactivity Hazard - No

### SARA 302 Extremely hazardous substance

Not listed.

**SARA 311/312 Hazardous chemical** Yes

### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Butane (CAS 106-97-8)  
Ethane (CAS 74-84-0)  
Methane (CAS 74-82-8)

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations** This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

#### US. Massachusetts RTK - Substance List

Butane (CAS 106-97-8)  
Ethane (CAS 74-84-0)  
Methane (CAS 74-82-8)

#### US. New Jersey Worker and Community Right-to-Know Act

Butane (CAS 106-97-8)  
Ethane (CAS 74-84-0)  
Methane (CAS 74-82-8)

#### US. Pennsylvania Worker and Community Right-to-Know Law

Butane (CAS 106-97-8)  
Ethane (CAS 74-84-0)  
Methane (CAS 74-82-8)

#### US. Rhode Island RTK

Butane (CAS 106-97-8)  
Ethane (CAS 74-84-0)  
Methane (CAS 74-82-8)

#### US. California Proposition 65

Not Listed.

## International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

## 16. Other information, including date of preparation or last revision

**Issue date** 19-May-2015

**Revision date** -

**Version #** 01

**NFPA ratings**



### Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.