

Safety Data Sheet**Section 1: Identification****Product identifier****Product Name**

- Natural Gas
- Natural gas-dry; Pipeline gas
- NG 2008-01

SDS Number/Grade**Relevant identified uses of the substance or mixture and uses advised against**

- Residential, commercial and industrial heating, industrial feedstock, power generation and vehicle transportation

Details of the supplier of the safety data sheet**Manufacturer**

- NW Natural
220 NW 2nd Ave.
Portland, OR 97209
United States
www.nwnatural.com
800-422-4012

Telephone (General)**Emergency telephone number**

- 800-882-3377

Section 2: Hazard Identification**United States (US)**

According to OSHA 29 CFR 1910.1200 HCS

Classification of the substance or mixture

- Flammable Gases 1 - H220
Compressed Gas - H280
Simple Asphyxiant

Label elements

OSHA HCS 2012

DANGER**Hazard statements**

- Extremely flammable gas - H220
Contains gas under pressure; may explode if heated - H280
May displace oxygen and cause rapid suffocation.

Precautionary statements

- **Prevention** • Keep away from heat, sparks, open flames and/or hot surfaces. - No smoking. - P210
- **Response** • Leaking gas fire: Do not extinguish, unless leak can be stopped safely. - P377
Eliminate all ignition sources if safe to do so. - P381

Storage/Disposal • Protect from sunlight. Store in a well-ventilated place. - P410+P403**Other hazards**

- 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

Chemical Name	Identifiers	%	Composition		Classifications According to Regulation/Directive
			LD50/LC50		
Methane	CAS:74-82-8	93.5%	NDA		OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx
Ethane	CAS:74-84-0	3.8%	NDA		OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx.
Nitrogen	CAS:7727-37-9	1.2%	NDA		OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.
Propane	CAS:74-98-6	1%	NDA		OSHA HCS 2012: Flam. Gas 1; Press. Gas - Comp.; Simp. Asphyx.
Carbon dioxide	CAS:124-38-9	0.3%	Inhalation-Rat LC50 • 470000 ppm 30 Minute(s)		OSHA HCS 2012: Press. Gas - Comp.; Simp. Asphyx.
Isobutane	CAS:75-28-5	0.1%	Inhalation-Rat LC50 • 658000 mg/m ³ 4 Hour(s)		OSHA HCS 2012: Flam. Gas 1; Press Gas - Comp.; Simp. Asphyx.
Butane	CAS:106-97-8	0.1%	Inhalation-Rat LC50 • 658 gm ³ 4 Hour(s)		OSHA HCS 2012: Flam. Gas 1; Press Gas - Comp.; Simp. Asphyx.
Pentane	CAS:109-66-0	< 0.1%	Inhalation-Rat LC50 • 364 gm ³ 4 Hour(s)		OSHA HCS 2012: Exposure limit(s)
Hexane	CAS:110-54-3	< 0.1%	Inhalation-Rat LC50 • 627000 mg/m ³ 3 Minute(s)		OSHA HCS 2012: Exposure limit(s)
2-Methylbutane (l Liquid form)	CAS:78-78-4	< 0.1%	Inhalation-Rat LC50 • 280000 mg/m ³ 4 Hour(s)		OSHA HCS 2012: Exposure limit(s)
2-Propanethiol, 2- methyl-	CAS:75-66-1	< 30ppm	Ingestion/Oral-Rat LD50 • 4729 mg/kg Inhalation-Rat LC50 • 22200 ppm 4 Hour(s)		OSHA HCS 2012: Exposure limit(s)
Methyl ethyl sulfide	CAS:824-89-5	< 8ppm	NDA		OSHA HCS 2012: Exposure limit(s)
Hydrogen sulfide	CAS:7763-06-4	< 5ppm	Inhalation-Rat LC50 • 700 mg/m ³ 4 Hour(s)		OSHA HCS 2012: Exposure limit(s)

All percentages provided are approximate.

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.
- Although exposure is unlikely, in case of contact immediately flush skin with running water. If skin irritation develops get medical advice/attention.
- First aid is not expected to be necessary, if material is used under ordinary conditions and as recommended. If irritation develops and persists, get medical attention.
- Ingestion is not considered a potential route of exposure.

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

- 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. A potential health hazard associated with this gas is anoxia.

Section 5: Fire-Fighting Measures

Extinguishing media

- Suitable Extinguishing Media • Dry Chemical, (Potassium Bicarbonate based *Purple K* most effective), Carbon dioxide, Water.
- Unsuitable Extinguishing Media • No data available

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.
Cylinders exposed to fire may vent and release flammable gas through pressure relief devices.
Containers may explode when heated.
Ruptured cylinders may rocket.
- Hazardous Combustion Products • No data available

Advice for firefighters

- Gas fires should not be extinguished unless flow of gas can be stopped.
Only authorized personnel should turn off valves or attempt repairs.
Fire crews 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 explosive concentrations including areas of potential migration underground or through structures.
Water mist may be used to cool surrounding structures including compressed gas cylinders or tanks.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

- Personal Precautions • Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not touch or walk through spilled material. Ventilate the area before entry.
- Emergency Procedures • ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. Stop leak if you can do it without risk. Keep unauthorized personnel away. Keep out of low areas. Stay upwind. LARGE SPILL:

Consider initial downwind evacuation for at least 800 meters (1/2 mile)

Environmental precautions

- Prevent spreading of vapors through sewers, ventilation systems and confined areas.

Methods and material for containment and cleaning up

- Containment/Clean-up Measures • All equipment used when handling the product must be grounded.
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; do not put water directly on leak, spill area or inside container.
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

Handling

- 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. Use only with adequate ventilation.
Ventilate closed spaces before entering. 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. Do not attempt to repair, adjust, or in any other way modify cylinders, if there is a malfunction or another type of operational problem, contact nearest distributor immediately. Empty containers retain product residue and can be hazardous. Do not cut, weld, puncture or incinerate container.

Conditions for safe storage, including any incompatibilities

- Storage • Store in a cool/low-temperature, well-ventilated dry place away from heat and ignition sources. 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
Pentane (109-66-0)	TWAs all isomers)	600 ppm TWA (listed under Pentane, 120 ppm TWA; 350 mg/m ³ TWA	1000 ppm TWA; 2950 mg/m ³ TWA
	Ceilings	Not established	610 ppm Ceiling (15 min); 1800 mg/m ³ Ceiling (15 min)
Hexane (110-54-3)	TWAs	50 ppm TWA	500 ppm TWA; 1800 mg/m ³ TWA
Isobutane (75-28-5)	STELs	1000 ppm STEL	Not established
	TWAs	Not established	800 ppm TWA; 1900 mg/m ³ TWA
Butane (106-97-8)	STELs	1000 ppm STEL	Not established
	TWAs	Not established	800 ppm TWA; 1900 mg/m ³ TWA
2-Methylbutane (Liquid form) (78-78-4)	TWAs (In all isomers)	600 ppm TWA (listed under Pentane, all isomers)	Not established
Carbon dioxide	TWAs	5000 ppm TWA	5000 ppm TWA; 9000 mg/m ³ TWA

(124-38-9)	STELs	30000 ppm STEL	30000 ppm STEL: 54000 mg/m3 STEL	Not established
Propane (74-98-6)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	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
Hydrogen sulfide (7783-06-4)	Ceilings	Not established	10 ppm Ceiling (10 min); 15 mg/m3 Ceiling (10 min)	20 ppm Ceiling
	STELs	5 ppm STEL	Not established	Not established
	TWAs	1 ppm TWA	Not established	Not established
Methane (74-82-8)	TWAs	1000 ppm TWA (listed under Aliphatic hydrocarbon gases: Alkane C1-4)	Not established	Not established

Exposure controls

Engineering Measures/Controls

- Good general ventilation 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 - electrical, ventilating and/or lighting equipment.

Personal Protective Equipment

Respiratory

- In case of insufficient ventilation, wear suitable respiratory equipment. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

Skin/Body

Environmental Exposure Controls

- Wear leather gloves when handling cylinders.
- Follow best practice for site management and disposal of waste. Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

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

Section 9 - Physical and Chemical Properties

Information on Physical and Chemical Properties

Material Description	Gas	Appearance/Description	Colorless, tasteless gas that has no odor or if trace amounts of sulfur compounds are added as an odorant the gas has a garlic/rotten-egg/skunk odor.
Physical Form	Gas	Appearance/Description	Colorless, tasteless gas that has no odor or if trace amounts of sulfur compounds are added as an odorant the gas has a garlic/rotten-egg/skunk odor.
Color	Colorless	Odor	Colorless or with trace amounts of sulfur compounds added as an odorant resulting in a garlic/rotten-egg/skunk odor.
Odor Threshold	No data available		

General Properties

Preparation Date: 26/February/2006
 Revision Date: 17/June/2014
 Page 5 of 14
 Format: GHS Language: English (US)
 OSHA-HCS 2012

Boiling Point	-258.7 F (-161.5 C) at 14.73 psig	Melting Point	No data available
Decomposition Temperature	No data available	pH	No data available
Specific Gravity/Relative Density	0.55 to 0.64 Water=1 depending on composition	Density	0.044 lb(s)/ft ³
Bulk Density	No data available	Water Solubility	Slightly Soluble 0.1 to 1 %
Viscosity	No data available		
Volatility			
Vapor Pressure	No data available	Vapor Density	No data available
Evaporation Rate	No data available		
Flammability			
Flash Point	-306 F (-187.7778 C)	UEL	15 % Limits vary slightly with composition
LEL	4.8 % Limits vary slightly with composition	Autoignition	1004 F (540 C)
Flammability (solid, gas)	Flammable gas.		
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

- Strong oxidizers.

Hazardous decomposition products

- Oxides of carbon (CO, CO2), "soot"

Section 11 - Toxicological Information

Information on toxicological effects

Components	
74-82-8	Acute Toxicity: Inhalation-Mouse LC50 • 326 g/m ³ 2 Hour(s)
75-28-5	Acute Toxicity: Inhalation-Rat LC50 • 57 pph 15 Minute(s), Behavioral/Tremor; Behavioral/Convulsions or effect on seizure threshold; Lungs, Thorax, or Respirator; Respiratory depression
106-97-8	Acute Toxicity: Inhalation-Rat LC50 • 658 g/m ³ 4 Hour(s)

Preparation Date: 26/February/2006
 Revision Date: 17/June/2014
 Page 6 of 14
 Format: GHS Language: English (US)
 OSHA-HCS 2012

2-Methylbutane (in liquid form) (< 0.1%)	78-78-4	Acute Toxicity: Inhalation-Rat LC50 • 280000 mg/m ³ 4 Hour(s)
Pentane (< 0.1%)	109-66-0	Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg
Hexane (< 0.1%)	110-54-3	Acute Toxicity: Ingestion/Oral-Rat LD50 • 25 g/kg; Inhalation-Rat LC50 • 48000 ppm 4 Hour(s); Irritation: Eye-Rabbit • 10 mg • Mild Irritation
Carbon dioxide (0.3%)	124-38-9	Acute Toxicity: Inhalation-Rat LC50 • 470000 ppm 30 Minute(s); Reproductive: Inhalation-Rat TLO • 6 pph 24 Hour(s) (10D preg); <i>Reproductive Effects: Specific Developmental Abnormalities</i> ; Musculoskeletal system: <i>Reproductive Effects: Specific Developmental Abnormalities</i> ; Cardiovascular (circulatory) system: <i>Reproductive Effects: Specific Developmental Abnormalities</i> ; Respiratory system

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • No data available
Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	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
Respiratory sensitization	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • No data available

Route(s) of entry/exposure • Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

Acute (Immediate)

- 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.
- No data available

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.
- Under normal conditions of use, no health effects are expected.
- Under normal conditions of use, no health effects are expected.
- Under normal conditions of use, no health effects are expected.

Eye

- Ingestion is not anticipated to be a likely route of exposure to this product.
- Ingestion is not anticipated to be a likely route of exposure to this product.

Ingestion

- Ingestion is not anticipated to be a likely route of exposure to this product.
- Ingestion is not anticipated to be a likely route of exposure to this product.

Key to abbreviations
LD = Lethal Dose
MLD = Mild
TC = Toxic Concentration

Section 12 - Ecological Information

Toxicity

- Material data lacking.

Persistence and degradability

- Material data lacking.

Bioaccumulative potential

- Material data lacking.

Mobility in Soil

- Material data lacking.

Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been conducted for this material.

Other adverse effects

- No studies have been found.

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 UN1971	Methane, compressed or Natural gas, compressed (with high methane content)	2.1	NDA	NDA

Special precautions for user • Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

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

Section 15 - Regulatory Information

Preparation Date: 26/February/2006
Revision Date: 17/June/2014

2-Methylbutane (in liquid form) (< 0.1%)	78-78-4	Acute Toxicity: Inhalation-Rat LC50 • 280000 mg/m ³ 4 Hour(s)
Pentane (< 0.1%)	109-66-0	Acute Toxicity: Ingestion/Oral-Rat LD50 • >2000 mg/kg
Hexane (< 0.1%)	110-54-3	Acute Toxicity: Ingestion/Oral-Rat LD50 • 25 g/kg; Inhalation-Rat LC50 • 48000 ppm 4 Hour(s); Irritation: Eye-Rabbit • 10 mg • Mild Irritation
Carbon dioxide (0.3%)	124-38-9	Acute Toxicity: Inhalation-Rat LC50 • 470000 ppm 30 Minute(s); Reproductive: Inhalation-Rat TLO • 6 pph 24 Hour(s) (10D preg); <i>Reproductive Effects: Specific Developmental Abnormalities</i> ; Musculoskeletal system: <i>Reproductive Effects: Specific Developmental Abnormalities</i> ; Cardiovascular (circulatory) system: <i>Reproductive Effects: Specific Developmental Abnormalities</i> ; Respiratory system

GHS Properties	Classification
Acute toxicity	OSHA HCS 2012 • No data available
Aspiration Hazard	OSHA HCS 2012 • No data available
Carcinogenicity	OSHA HCS 2012 • No data available
Germ Cell Mutagenicity	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
Respiratory sensitization	OSHA HCS 2012 • No data available
Serious eye damage/Irritation	OSHA HCS 2012 • No data available

Route(s) of entry/exposure • Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

Acute (Immediate)

- 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.
- No data available

Chronic (Delayed)

- Under normal conditions of use, no health effects are expected.
- Under normal conditions of use, no health effects are expected.
- Under normal conditions of use, no health effects are expected.
- Under normal conditions of use, no health effects are expected.

Eye

- Ingestion is not anticipated to be a likely route of exposure to this product.
- Ingestion is not anticipated to be a likely route of exposure to this product.

Ingestion

- Ingestion is not anticipated to be a likely route of exposure to this product.
- Ingestion is not anticipated to be a likely route of exposure to this product.

Key to abbreviations
LD = Lethal Dose
MLD = Mild
TC = Toxic Concentration

Section 12 - Ecological Information

Toxicity

- Material data lacking.

Persistence and degradability

- Material data lacking.

Bioaccumulative potential

- Material data lacking.

Mobility in Soil

- Material data lacking.

Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been conducted for this material.

Other adverse effects

- No studies have been found.

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 UN1971	Methane, compressed or Natural gas, compressed (with high methane content)	2.1	NDA	NDA

Special precautions for user • Cylinders should be transported in a secure position, in a well-ventilated vehicle. The transportation of compressed gas cylinders in automobiles or in closed-body vehicles can present serious safety hazards. If transporting these cylinders in vehicles, ensure these cylinders are not exposed to extremely high temperatures (as may occur in an enclosed vehicle on a hot day). Additionally, the vehicle should be well-ventilated during transportation.

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

Section 15 - Regulatory Information

Preparation Date: 26/February/2006
Revision Date: 17/June/2014

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
2-Methylbutane (In Liquid form)	78-78-4	Yes
2-Propanethiol, 2-methyl-	75-66-1	Yes
Butane	106-97-8	Yes
Carbon dioxide	124-38-9	Yes
Ethane	74-84-0	Yes
Hexane	110-54-3	Yes
Hydrogen sulfide	7783-06-4	Yes
Isobutane	75-28-5	Yes
Methane	74-82-8	Yes
Methyl ethyl sulfide	624-89-5	Yes
Nitrogen	7727-37-9	Yes
Pentane	109-66-0	Yes
Propane	74-98-6	Yes

United States

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

Hydrogen sulfide	7783-06-4	1500 lb TQ
Pentane	109-66-0	Not Listed
Ethane	74-84-0	Not Listed
2-Methylbutane (In Liquid form)	78-78-4	Not Listed
Isobutane	75-28-5	Not Listed
Carbon dioxide	124-38-9	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Hexane	110-54-3	Not Listed
Nitrogen	7727-37-9	Not Listed
Methane	74-82-8	Not Listed
2-Propanethiol, 2-methyl-	75-66-1	Not Listed
Methyl ethyl sulfide	624-89-5	Not Listed

U.S. - OSHA - Specifically Regulated Chemicals

Hydrogen sulfide	7783-06-4	Not Listed
Pentane	109-66-0	Not Listed
Ethane	74-84-0	Not Listed
2-Methylbutane (In Liquid form)	78-78-4	Not Listed
Isobutane	75-28-5	Not Listed
Carbon dioxide	124-38-9	Not Listed
Propane	74-98-6	Not Listed
Butane	106-97-8	Not Listed
Hexane	110-54-3	Not Listed
Nitrogen	7727-37-9	Not Listed

- Methane
- 2-Propanethiol, 2-methyl-
- Methyl ethyl sulfide

- 74-82-8
- 75-66-1
- 624-89-5

- Not Listed
- Not Listed
- Not Listed

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

- Hydrogen sulfide
- Pentane
- Ethane
- 2-Methylbutane (In Liquid form)
- Isobutane
- Carbon dioxide
- Propane
- Butane
- Hexane
- 110-54-3
- 7727-37-9
- 74-82-8
- 75-66-1
- 624-89-5

- 7783-06-4
- 109-66-0
- 74-84-0
- 78-78-4
- 75-28-5
- 124-38-9
- 74-98-6
- 106-97-8
- 110-54-3
- 7727-37-9
- 74-82-8
- 75-66-1
- 624-89-5

- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed

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

- Hydrogen sulfide
- Pentane
- Ethane
- 2-Methylbutane (In Liquid form)
- Isobutane
- Carbon dioxide
- Propane
- Butane
- Hexane
- Nitrogen
- Methane
- 2-Propanethiol, 2-methyl-
- Methyl ethyl sulfide

- 7783-06-4
- 109-66-0
- 74-84-0
- 78-78-4
- 75-28-5
- 124-38-9
- 74-98-6
- 106-97-8
- 110-54-3
- 7727-37-9
- 74-82-8
- 75-66-1
- 624-89-5

- 100 lb final RQ; 45,4 kg final RQ
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed

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

- Hydrogen sulfide
- Pentane
- Ethane
- 2-Methylbutane (In Liquid form)
- Isobutane
- Carbon dioxide
- Propane
- Butane
- Hexane
- Nitrogen
- Methane
- 2-Propanethiol, 2-methyl-
- Methyl ethyl sulfide

- 7783-06-4
- 109-66-0
- 74-84-0
- 78-78-4
- 75-28-5
- 124-38-9
- 74-98-6
- 106-97-8
- 110-54-3
- 7727-37-9
- 74-82-8
- 75-66-1
- 624-89-5

- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed
- Not Listed

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

- Hydrogen sulfide

- 7783-06-4

- 100 lb EPCRA RQ

<ul style="list-style-type: none"> • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>500 lb. TPQ Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>U.S. - CERCLA/SARA - Section 313 - Emission Reporting</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>1.0 % de minimis concentration Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>

<ul style="list-style-type: none"> • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>United States - California</p>			
<p>Environment</p>			
<p>U.S. - California - Proposition 65 - Carcinogens List</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>U.S. - California - Proposition 65 - Developmental Toxicity</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>
<p>U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)</p>			
<ul style="list-style-type: none"> • Hydrogen sulfide • Pentane • Ethane • 2-Methylbutane (In Liquid form) • Isobutane • Carbon dioxide • Propane • Butane • Hexane • Nitrogen • Methane • 2-Propanethiol, 2-methyl- • Methyl ethyl sulfide 	<p>7783-06-4 109-66-0 74-84-0 78-78-4 75-28-5 124-38-9 74-98-6 106-97-8 110-54-3 7727-37-9 74-82-8 75-66-1 624-89-5</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>	<p>Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed Not Listed</p>

- Hydrogen sulfide
- Pentane
- Ethane
- 2-Methylbutane (In Liquid form)
- Isobutane
- Carbon dioxide
- Propane
- Butane
- Hexane
- Nitrogen
- Methane
- 2-Propanethiol, 2-methyl-
- Methyl ethyl sulfide

U.S. - California - Proposition 65 - Reproductive Toxicity - Female

- Hydrogen sulfide
- Pentane
- Ethane
- 2-Methylbutane (In Liquid form)
- Isobutane
- Carbon dioxide
- Propane
- Butane
- Hexane
- Nitrogen
- Methane
- 2-Propanethiol, 2-methyl-
- Methyl ethyl sulfide

U.S. - California - Proposition 65 - Reproductive Toxicity - Male

- Hydrogen sulfide
- Pentane
- Ethane
- 2-Methylbutane (In Liquid form)
- Isobutane
- Carbon dioxide
- Propane
- Butane
- Hexane
- Nitrogen
- Methane
- 2-Propanethiol, 2-methyl-
- Methyl ethyl sulfide

Key to abbreviations NDA = No Data Available

- 7783-06-4 Not Listed
- 109-66-0 Not Listed
- 74-84-0 Not Listed
- 78-78-4 Not Listed
- 75-28-5 Not Listed
- 124-38-9 Not Listed
- 74-98-6 Not Listed
- 106-97-8 Not Listed
- 110-54-3 Not Listed
- 7727-37-9 Not Listed
- 74-82-8 Not Listed
- 75-66-1 Not Listed
- 624-89-5 Not Listed

- 7783-06-4 Not Listed
- 109-66-0 Not Listed
- 74-84-0 Not Listed
- 78-78-4 Not Listed
- 75-28-5 Not Listed
- 124-38-9 Not Listed
- 74-98-6 Not Listed
- 106-97-8 Not Listed
- 110-54-3 Not Listed
- 7727-37-9 Not Listed
- 74-82-8 Not Listed
- 75-66-1 Not Listed
- 624-89-5 Not Listed

- 7783-06-4 Not Listed
- 109-66-0 Not Listed
- 74-84-0 Not Listed
- 78-78-4 Not Listed
- 75-28-5 Not Listed
- 124-38-9 Not Listed
- 74-98-6 Not Listed
- 106-97-8 Not Listed
- 110-54-3 Not Listed
- 7727-37-9 Not Listed
- 74-82-8 Not Listed
- 75-66-1 Not Listed
- 624-89-5 Not Listed

Section 16 - Other Information

- Last Revision Date**
- 17/June/2014
- Preparation Date**
- 26/February/2006

Disclaimer/Statement of Liability

The data contained in this SDS are believed to be accurate, but are not so warranted whether or not they originated at NW Natural. Recipients of this SDS are advised to confirm ahead of time that the data are current and suitable to their needs.