

SECTION 1: IDENTIFICATION**1.1. Product Identifier****Product Form:** Mixture**Product Name:** Natural Gas Liquids**1.2. Intended Use of the Product****Use of the substance/mixture:** Hydrocarbon**1.3. Name, Address, and Telephone of the Responsible Party****Company**

MarkWest Energy Partners, L.P.

1515 Arapahoe Street

Tower 1, Suite 1600

Denver, Colorado 80202-2126

800-730-8388

<http://www.markwest.com/>**1.4. Emergency Telephone Number****Emergency Number** : 800-730-8388, 800-424-9300 (CHEMTREC)**SECTION 2: HAZARDS IDENTIFICATION****2.1. Classification of the Substance or Mixture****Classification (GHS-US)**

Simple Asphy

Flam. Gas 1 H220

Liquefied gas H280

Skin Irrit. 2 H315

Muta. 1B H340

Carc. 1B H350

Repr. 2 H361

STOT SE 3 H336

Aquatic Acute 2 H401

Aquatic Chronic 2 H411

Full text of H-phrases: see section 16

2.2. Label Elements**GHS-US Labeling****Hazard Pictograms (GHS-US)****Signal Word (GHS-US)**

: Danger

Hazard Statements (GHS-US): H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H315 - Causes skin irritation.
H336 - May cause drowsiness or dizziness.
H340 - May cause genetic defects.
H350 - May cause cancer.
H361 - Suspected of damaging fertility or the unborn child.
H380 - May displace oxygen and cause rapid suffocation.
H401 - Toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.**Precautionary Statements (GHS-US)**: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, sparks, open flames, hot surfaces. - No smoking.
P261 - Avoid breathing gas, mist, spray, vapors.
P264 - Wash hands, forearms, and exposed areas thoroughly after handling.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear eye protection, protective clothing, protective gloves.

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P302+P352 - If on skin: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep at rest in a position comfortable for breathing.
P312 - Call a poison center or doctor if you feel unwell.
P321 - Specific treatment (see Section 4 on this SDS).
P332+P313 - If skin irritation occurs: Get medical advice/attention.
P362 - Take off contaminated clothing and wash before reuse.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P391 - Collect spillage.
P403 - Store in a well-ventilated place.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Flammable vapors can accumulate in head space of closed systems. Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and shouldn't be used as an indicator for the presence of gas.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product Identifier | % | Classification (GHS-US) |
|-------------------|--------------------|---------|--|
| Propane | (CAS No) 74-98-6 | 20 - 70 | Simple Asphy, H380 Flam. Gas 1, H220 Liquefied gas, H280 |
| Butane | (CAS No) 106-97-8 | 15 - 25 | Simple Asphy, H380 Flam. Gas 1, H220 Liquefied gas, H280 |
| Pentane | (CAS No) 109-66-0 | 5 - 25 | Flam. Liq. 1, H224 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411 |
| Gasoline, natural | (CAS No) 8006-61-9 | 0 - 25 | Flam. Liq. 1, H224 Skin Irrit. 2, H315 Muta. 1B, H340 Carc. 1B, H350 Repr. 2, H361 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 2, H401 Aquatic Chronic 2, H411 |
| Isobutane | (CAS No) 75-28-5 | 5 - 15 | Simple Asphy, H380 Flam. Gas 1, H220 Liquefied gas, H280 |
| Ethane | (CAS No) 74-84-0 | 0 - 5 | Simple Asphy, H380 Flam. Gas 1, H220 Liquefied gas, H280 |

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| | | | |
|------------------|--------------------|-----------|---|
| Hydrogen sulfide | (CAS No) 7783-06-4 | 0 - 0.055 | Flam. Gas 1, H220 Liquefied gas, H280 Acute Tox. 2 (Inhalation:gas), H330 Eye Irrit. 2A, H319 STOT SE 3, H335 Aquatic Acute 1, H400 |
|------------------|--------------------|-----------|---|

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

First-aid Measures General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid Measures After Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation persists. Thaw frosted parts with lukewarm water. Do not rub affected area.

First-aid Measures After Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation persists.

First-aid Measures After Ingestion: Rinse mouth. Do NOT induce vomiting. Get immediate medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/Injuries: Causes skin irritation. Natural Gas is an asphyxiant. Lack of oxygen can be fatal. May cause frostbite on contact with the liquid. May cause drowsiness or dizziness.

Symptoms/Injuries After Inhalation: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. Asphyxia by lack of oxygen: risk of death. May cause drowsiness or dizziness.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. Contact with the liquid may cause cold burns/frostbite.

Symptoms/Injuries After Eye Contact: Redness, pain, swelling, itching, burning, tearing, and blurred vision. Contact with the liquefied gas causes frostbite.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure. Non-irritating, but solid and liquid forms of this material and pressurized gas may cause freeze burns.

Chronic Symptoms: May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Stop leak is safe to do so and without risk. Foam, dry chemical, carbon dioxide, water spray, fog.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Extremely flammable liquid and vapor.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Heating may cause an explosion. Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Reacts with (strong) oxidizers: (increased) risk of fire.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Other Information: Do not allow run-off from fire fighting to enter drains or water courses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Eliminate every possible source of ignition. Keep away from heat/sparks/open flames/hot surfaces - No smoking. Avoid breathing vapors, mist, spray. Use only outdoors or in a well-ventilated area. Avoid all contact with skin, eyes, or clothing. Do not allow product to spread into the environment.

6.1.1. For Non-emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

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Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Use water spray to disperse vapors. For water based spills contact appropriate authorities and abide by local regulations for hydrocarbon spills into waterways. Use only non-sparking tools. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Handle empty containers with care because residual vapors are flammable. Do not pressurize, cut, or weld containers. Do not puncture or incinerate container. Combustion will produce sulfur dioxide another toxic and irritating gas. If stored under heat for extended periods or significantly agitated, this material might evolve or release hydrogen sulfide, a flammable gas, which can raise and widen this material's actual flammability limits and significantly lower its auto-ignition temperature. Hydrogen sulfide is a toxic gas that can be fatal. It also has a rotten egg smell that causes odor fatigue very quickly and shouldn't be used as an indicator for the presence of gas.

Precautions for Safe Handling: Keep away from heat, sparks, open flames, hot surfaces. - No smoking. Avoid breathing gas, vapors, mist, spray. Use only outdoors or in a well-ventilated area.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Proper grounding procedures to avoid static electricity should be followed. Comply with applicable regulations. Use explosion proof equipment.

Storage Conditions: Keep/Store away from direct sunlight, extremely high or low temperatures, ignition sources, heat, combustible materials, incompatible materials. Keep in fireproof place. Store in a well-ventilated place. Keep container tightly closed.

Incompatible Products: Strong acids, strong bases, strong oxidizers, halogenated compounds.

Storage Area: Store in a well-ventilated place. Store locked up.

7.3. Specific End Use(s)

Hydrocarbon. For professional use only.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

| Butane (106-97-8) | | |
|---------------------|--|------------------------|
| USA ACGIH | ACGIH STEL (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1900 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 800 ppm |
| Isobutane (75-28-5) | | |
| USA ACGIH | ACGIH STEL (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1900 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 800 ppm |
| Pentane (109-66-0) | | |
| USA ACGIH | ACGIH TWA (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 350 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 120 ppm |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 1800 mg/m ³ |
| USA NIOSH | NIOSH REL (ceiling) (ppm) | 610 ppm |

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| | | |
|-------------------------------------|--|------------------------|
| USA IDLH | US IDLH (ppm) | 1500 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 2950 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |
| Hydrogen sulfide (7783-06-4) | | |
| USA ACGIH | ACGIH TWA (ppm) | 1 ppm |
| USA ACGIH | ACGIH STEL (ppm) | 5 ppm |
| USA NIOSH | NIOSH REL (ceiling) (mg/m ³) | 15 mg/m ³ |
| USA NIOSH | NIOSH REL (ceiling) (ppm) | 10 ppm |
| USA IDLH | US IDLH (ppm) | 100 ppm |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 20 ppm |
| Ethane (74-84-0) | | |
| USA ACGIH | ACGIH TWA (ppm) | 1000 ppm |
| Propane (74-98-6) | | |
| USA ACGIH | ACGIH TWA (ppm) | 1000 ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 1000 ppm |
| USA IDLH | US IDLH (ppm) | 2100 ppm (10% LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1800 mg/m ³ |
| USA OSHA | OSHA PEL (TWA) (ppm) | 1000 ppm |

8.2. Exposure Controls

Appropriate Engineering Controls

: Gas detectors should be used when flammable gases/vapors may be released. Ensure adequate ventilation, especially in confined areas. Proper grounding procedures to avoid static electricity should be followed. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Use explosion-proof equipment.

Personal Protective Equipment

: Protective goggles. Protective clothing. Respiratory protection of the dependent type. Insulated gloves.



Materials for Protective Clothing

: Chemically resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

Hand Protection

: Wear chemically resistant protective gloves. Insulated gloves.

Eye Protection

: Chemical goggles or face shield.

Respiratory Protection

: Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Thermal Hazard Protection

: Wear suitable protective clothing.

Other Information

: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

| | |
|----------------------------------|---|
| Physical State | : Gas |
| Appearance | : Colorless gas (Clear liquid under pressure) |
| Odor | : Distinct hydrocarbon |
| Odor Threshold | : No data available |
| pH | : No data available |
| Evaporation Rate | : No data available |
| Melting Point | : No data available |
| Freezing Point | : No data available |
| Boiling Point | : -98 °F (-72.22 °C) |
| Flash Point | : 200 °F (93.33 °C) |
| Auto-ignition Temperature | : No data available |
| Decomposition Temperature | : No data available |

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| | |
|--|----------------------------------|
| Flammability (solid, gas) | : Extremely flammable gas |
| Vapor Pressure | : 30.0 to 90.0 psia at 100 °F |
| Relative Vapor Density at 20 °C | : 1.6 - 3.0 (Air=1) |
| Relative Density | : No data available |
| Specific Gravity | : 0.5 - 0.65 (Water=1) |
| Solubility | : Water: Negligible (below 0.1%) |
| Partition Coefficient: N-Octanol/Water | : No data available |
| Viscosity | : No data available |
| Lower Flammable Limit | : 1 % |
| Upper Flammable Limit | : 9.5 % |

9.2. Other Information No additional information available

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Hazardous reactions will not occur under normal conditions.
- 10.2. Chemical Stability:** Extremely flammable gas. Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.
- 10.4. Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, ignition sources, combustible materials, incompatible materials.
- 10.5. Incompatible Materials:** Strong acids. Strong bases. Strong oxidizers. Halogens. Chlorine.
- 10.6. Hazardous Decomposition Products:** Carbon oxides (CO, CO₂). Hydrocarbons.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

| | |
|--------------------------------------|--|
| Butane (106-97-8) | |
| LC50 Inhalation Rat | 30957 mg/m ³ (Exposure time: 4 h) |
| Isobutane (75-28-5) | |
| LC50 Inhalation Rat | 658 mg/l/4h |
| Pentane (109-66-0) | |
| LD50 Dermal Rabbit | 3000 mg/kg |
| LC50 Inhalation Rat | 364 g/m ³ (Exposure time: 4 h) |
| Hydrogen sulfide (7783-06-4) | |
| LC50 Inhalation Rat | 0.99 mg/l (Exposure time: 1 h) |
| LC50 Inhalation Rat | 444 ppm/4h |
| Gasoline, natural (8006-61-9) | |
| LC50 Inhalation Rat | 300 g/m ³ (Exposure time: 5 min) |
| Ethane (74-84-0) | |
| LC50 Inhalation Rat | 658 mg/l/4h |
| Propane (74-98-6) | |
| LC50 Inhalation Rat | 658 mg/l/4h |

Skin Corrosion/Irritation: Causes skin irritation.

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: May cause genetic defects.

Carcinogenicity: May cause cancer.

Reproductive Toxicity: Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (Single Exposure): May cause drowsiness or dizziness.

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. Asphyxia by lack of oxygen: risk of death. May cause drowsiness or dizziness.

Symptoms/Injuries After Skin Contact: Redness, pain, swelling, itching, burning, dryness, and dermatitis. Contact with the liquid may cause cold burns/frostbite.

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Symptoms/Injuries After Eye Contact: Redness, pain, swelling, itching, burning, tearing, and blurred vision. Contact with the liquefied gas causes frostbite.

Symptoms/Injuries After Ingestion: Ingestion is not considered a potential route of exposure. Non-irritating, but solid and liquid forms of this material and pressurized gas may cause freeze burns.

Chronic Symptoms: May cause cancer. May cause genetic defects. Suspected of damaging fertility or the unborn child.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Toxic to aquatic life with long lasting effects.

| Pentane (109-66-0) | |
|-------------------------------|---|
| LC50 Fish 1 | 9.87 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss) |
| EC50 Daphnia 1 | 9.74 mg/l (Exposure time: 48 h - Species: Daphnia magna) |
| LC 50 Fish 2 | 11.59 mg/l (Exposure time: 96 h - Species: Pimephales promelas) |
| Hydrogen sulfide (7783-06-4) | |
| LC50 Fish 1 | 0.0448 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [flow-through]) |
| LC 50 Fish 2 | 0.016 mg/l (Exposure time: 96 h - Species: Pimephales promelas [flow-through]) |
| Gasoline, natural (8006-61-9) | |
| LC50 Fish 1 | 56 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss) |

12.2. Persistence and Degradability

| Natural Gas Liquids | |
|-------------------------------|---------------------------|
| Persistence and Degradability | Product is biodegradable. |

12.3. Bioaccumulative Potential

| Natural Gas Liquids | |
|-------------------------------|--------------------------------|
| Bioaccumulative Potential | Not expected to bioaccumulate. |
| Butane (106-97-8) | |
| Log Pow | 2.89 |
| Isobutane (75-28-5) | |
| BCF fish 1 | 1.57 - 1.97 |
| Log Pow | 2.88 (at 20 °C) |
| Pentane (109-66-0) | |
| Log Pow | 3.39 |
| Hydrogen sulfide (7783-06-4) | |
| BCF fish 1 | (no bioaccumulation expected) |
| Log Pow | 0.45 (at 25 °C) |
| Gasoline, natural (8006-61-9) | |
| Log Pow | 2.1 - 6.0 |
| Ethane (74-84-0) | |
| Log Pow | <= 2.8 |
| Propane (74-98-6) | |
| Log Pow | 2.3 |

12.4. Mobility in Soil No additional information available

12.5. Other Adverse Effects

Other Adverse Effects : Can cause frost damage to vegetation.

Other Information : Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED

Hazard Class : 2.1



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Identification Number : UN1075
Label Codes : 2.1
Marine Pollutant : Marine pollutant
ERG Number : 115

14.2. In Accordance with IMDG

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Hazard Class : 2
Identification Number : UN1075
Label Codes : 2.1
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U
Marine Pollutant : Marine pollutant



14.3. In Accordance with IATA

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED
Identification Number : UN1075
Hazard Class : 2
Label Codes : 2.1
ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

| | |
|---|--|
| Natural Gas Liquids | |
| SARA Section 311/312 Hazard Classes | Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard Sudden release of pressure hazard |
| Butane (106-97-8) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Isobutane (75-28-5) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Pentane (109-66-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| Hydrogen sulfide (7783-06-4) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Listed on the United States SARA Section 302 | |
| Listed on United States SARA Section 313 | |
| SARA Section 302 Threshold Planning Quantity (TPQ) | 500 |
| SARA Section 313 - Emission Reporting | 1.0 % |
| Gasoline, natural (8006-61-9) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Ethane (74-84-0) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| Propane (74-98-6) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |

15.2 US State Regulations

| |
|--|
| Butane (106-97-8) |
| U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min) |
| U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr) |
| U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities |
| U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities |
| U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities |
| U.S. - Maine - Chemicals of High Concern |
| U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1 |

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U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Isobutane (75-28-5)

U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Maine - Chemicals of High Concern
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Chemicals of High Concern
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term

Pentane (109-66-0)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1

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U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs

Hydrogen sulfide (7783-06-4)

U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
U.S. - Colorado - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
U.S. - Idaho - Occupational Exposure Limits - Acceptable Maximum Peak Above the Ceiling Concentration for an 8-Hour Shift
U.S. - Idaho - Occupational Exposure Limits - Ceilings
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Louisiana - Reportable Quantity List for Pollutants
U.S. - Maine - Air Pollutants - Hazardous Air Pollutants
U.S. - Massachusetts - Allowable Ambient Limits (AALs)
U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Threshold Effects Exposure Limits (TELEs)
U.S. - Massachusetts - Toxics Use Reduction Act
U.S. - Michigan - Occupational Exposure Limits - STELs
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Michigan - Polluting Materials List
U.S. - Michigan - Process Safety Management Highly Hazardous Chemicals

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U.S. - Minnesota - Chemicals of High Concern
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - STELs
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - Montana - Ambient Air Quality Standards
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour
U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New Mexico - Air Quality - Ambient Air Quality Standards
U.S. - New York - Occupational Exposure Limits - Ceilings
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances
U.S. - North Carolina - Control of Toxic Air Pollutants
U.S. - North Dakota - Ambient Air Quality Standards - Maximum Permissible Concentrations
U.S. - North Dakota - Hazardous Wastes - Discarded Chemical Products, Off-Specification Species, Container and Spill Residues
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - Ceilings
U.S. - Oregon - Permissible Exposure Limits - STELs
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups
RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour
U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual
U.S. - South Carolina - Toxic Air Pollutants - Maximum Allowable Concentrations
U.S. - South Carolina - Toxic Air Pollutants - Pollutant Categories
U.S. - Tennessee - Occupational Exposure Limits - STELs
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Drinking Water Standards - Secondary Constituent Levels (SCLs)
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Hazardous Waste - Hazardous Constituents
U.S. - Vermont - Permissible Exposure Limits - STELs
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Virginia - Water Quality Standards - Chronic Freshwater Aquatic Life
U.S. - Virginia - Water Quality Standards - Chronic Saltwater Aquatic Life
U.S. - Washington - Dangerous Waste - Dangerous Waste Constituents List
U.S. - Washington - Dangerous Waste - Discarded Chemical Products List
U.S. - Washington - Permissible Exposure Limits - STELs
U.S. - Washington - Permissible Exposure Limits - TWAs
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater
U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet
U.S. - Wyoming - Process Safety Management - Highly Hazardous Chemicals
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Fresh Water
U.S. - Alaska - Water Quality Standards - Chronic Aquatic Life Criteria for Marine Water

Gasoline, natural (8006-61-9)

RTK - U.S. - Massachusetts - Right To Know List
U.S. - Minnesota - Chemicals of High Concern
U.S. - California - Safer Consumer Products - Initial List of Candidate Chemicals and Chemical Groups

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Ethane (74-84-0)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Delaware - Volatile Organic Compounds Exempt from Requirements
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Massachusetts - Volatile Organic Compounds Exempt From Requirements
U.S. - Minnesota - Hazardous Substance List
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
U.S. - New Jersey - Excluded Volatile Organic Compounds
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Washington - Permissible Exposure Limits - Simple Asphyxiants

Propane (74-98-6)

U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
U.S. - Idaho - Occupational Exposure Limits - TWAs
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1
U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2
RTK - U.S. - Massachusetts - Right To Know List
U.S. - Michigan - Occupational Exposure Limits - TWAs
U.S. - Minnesota - Hazardous Substance List
U.S. - Minnesota - Permissible Exposure Limits - TWAs
U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances
U.S. - New Jersey - Environmental Hazardous Substances List
RTK - U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - New Jersey - Special Health Hazards Substances List
U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS)
U.S. - New York - Occupational Exposure Limits - TWAs
U.S. - Ohio - Accidental Release Prevention - Threshold Quantities
U.S. - Oregon - Permissible Exposure Limits - TWAs
RTK - U.S. - Pennsylvania - RTK (Right to Know) List
U.S. - Tennessee - Occupational Exposure Limits - TWAs
U.S. - Texas - Effects Screening Levels - Long Term
U.S. - Texas - Effects Screening Levels - Short Term
U.S. - Vermont - Permissible Exposure Limits - TWAs
U.S. - Washington - Permissible Exposure Limits - STELs

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U.S. - Washington - Permissible Exposure Limits - TWAs

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 04/14/2016
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

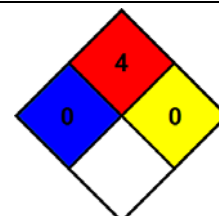
GHS Full Text Phrases:

| | |
|-------------------------------|--|
| Acute Tox. 2 (Inhalation:gas) | Acute toxicity (inhalation:gas) Category 2 |
| Aquatic Acute 1 | Hazardous to the aquatic environment - Acute Hazard Category 1 |
| Aquatic Acute 2 | Hazardous to the aquatic environment - Acute Hazard Category 2 |
| Aquatic Chronic 2 | Hazardous to the aquatic environment - Chronic Hazard Category 2 |
| Asp. Tox. 1 | Aspiration hazard Category 1 |
| Carc. 1B | Carcinogenicity Category 1B |
| Eye Irrit. 2A | Serious eye damage/eye irritation Category 2A |
| Flam. Gas 1 | Flammable gases Category 1 |
| Flam. Liq. 1 | Flammable liquids Category 1 |
| Liquefied gas | Gases under pressure Liquefied gas |
| Muta. 1B | Germ cell mutagenicity Category 1B |
| Repr. 2 | Reproductive toxicity Category 2 |
| Simple Asphy | Simple Asphyxiant |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H220 | Extremely flammable gas |
| H224 | Extremely flammable liquid and vapor |
| H280 | Contains gas under pressure; may explode if heated |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H330 | Fatal if inhaled |
| H335 | May cause respiratory irritation |
| H336 | May cause drowsiness or dizziness |
| H340 | May cause genetic defects |
| H350 | May cause cancer |
| H361 | Suspected of damaging fertility or the unborn child |
| H400 | Very toxic to aquatic life |
| H401 | Toxic to aquatic life |
| H411 | Toxic to aquatic life with long lasting effects |

NFPA Health Hazard : 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.

NFPA Fire Hazard : 4 - Will rapidly or completely vaporize at normal pressure and temperature, or is readily dispersed in air and will burn readily.

NFPA Reactivity Hazard : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

SDS US (GHS HazCom)