SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture
Product Name: Sales Gas
Synonyms: Propane / Propylene (P/P)

1.2. Intended Use of the Product

Light gases from distilled and catalytically-cracked petroleum oil consisting of hydrogen and hydrocarbons having carbon numbers in the range of C₁ through C₄, predominantly methane and ethane (> 80%).

1.3. Name, Address, and Telephone of the Responsible Party

Customer
Hess Tower
1501 McKinney
Houston, TX 77010
T:(713) 496-4000

When calling the main operator ask for the EHS Safety Department. All Hess SDSs are also available via the Hess.com website.

1.4. Emergency Telephone Number

Emergency Number : (800) 424-9300 CHEMTREC (24 hours)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US/CA Classification

Simple Asphy
Flam. Gas 1 H220
Press. Gas (Liq.) H280
Acute Tox. 4 H332
(Inhalation:gas)
Muta. 1A H340
Carc. 1B H350
Repr. 1A H360
STOT RE 2 H373

Full text of hazard classes and H-statements : see Section 16.

2.2. Label Elements

GHS-US/CA Labeling

Hazard Pictograms (GHS-US/CA) :

Signal Word (GHS-US/CA) : Danger
Hazard Statements (GHS-US/CA) :
H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
H332 - Harmful if inhaled.
H340 - May cause genetic defects.
H350 - May cause cancer.
H360 - May damage fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.
May displace oxygen and cause rapid suffocation.
Precautionary Statements (GHS-US/CA):
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 - Do not breathe gas.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, and eye protection.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - If exposed or concerned: Get medical advice/attention.
P310 - Call a POISON CENTER or doctor if you feel unwell.
P314 - Get medical advice/attention if you feel unwell.
P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - In case of leakage, eliminate all ignition sources.
P403 - Store in a well-ventilated place.
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, provincial, territorial and international regulations.

2.3. Other Hazards
Exposure may aggravate pre-existing eye, skin, or respiratory conditions. Contact with gas escaping the container can cause frostbite.

2.4. Unknown Acute Toxicity (GHS-US/CA)
No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>% *</th>
<th>GHS Ingredient Classification</th>
</tr>
</thead>
</table>
| Fuel gases, crude oil distillates   | (CAS-No.) 68476-29-9 | 100 | Simple Asphy  
Flam. Gas 1, H220  
Press. Gas (Liq.), H280  
Acute Tox. 4 (Inhalation:gas), H332  
Muta. 1A, H340  
Carc. 1B, H350  
Repr. 1A, H360  
STOT RE 2, H373 |

Contains:

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>% *</th>
<th>GHS Ingredient Classification</th>
</tr>
</thead>
</table>
| Methane | (CAS-No.) 74-82-8 | < 40 | Simple Asphy  
Flam. Gas 1, H220  
Press. Gas (Liq.), H280 |
| Ethane  | (CAS-No.) 74-84-0 | < 20 | Simple Asphy  
Flam. Gas 1, H220  
Press. Gas (Liq.), H280 |
| Ethylene | (CAS-No.) 74-85-1 | < 20 | Simple Asphy  
Flam. Gas 1, H220  
Press. Gas (Comp.), H280  
STOT SE 3, H336  
Aquatic Acute 3, H402 |
| Hydrogen | (CAS-No.) 1333-74-0 | < 15 | Flam. Gas 1, H220  
Press. Gas (Comp.), H280 |
| Propene  | (CAS-No.) 115-07-1 | 1 - 4 | Simple Asphy  
Flam. Gas 1, H220  
Press. Gas (Liq.), H280  
Aquatic Acute 3, H402 |
SECTION 4: FIRST AID MEASURES

4.1. Description of 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.

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention. Obtain medical attention if breathing difficulty persists. First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Thaw frosted parts with lukewarm water. Do not rub affected area. Get immediate medical advice/attention.

Eye Contact: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: May cause frostbite on contact with the liquid. Harmful if inhaled. May cause genetic defects. May cause cancer. May damage fertility. May damage the unborn child. May cause damage to organs through prolonged or repeated exposure. Asphyxia by lack of oxygen: risk of death.

Inhalation: Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness. In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.

This product is a simple asphyxiant. In high concentrations it will displace oxygen from the breathing atmosphere, particularly in confined spaces. Signs of asphyxiation will be noticed when oxygen is reduced to below 16%, and may occur in several stages. Symptoms may include rapid breathing and pulse rate, headache, dizziness, visual disturbances, mental confusion, incoordination, mood changes, muscular weakness, tremors, cyanosis, narcosis and numbness of the extremities. Unconsciousness leading to central nervous system injury and possibly death will occur when the atmospheric oxygen concentration is reduced to about ≤8%.

WARNING: The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

Skin Contact: Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

Eye Contact: Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

Ingestion: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

Chronic Symptoms: May cause genetic defects. May cause cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

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

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Do not extinguish burning gas if flow cannot be shut off immediately. Extinguish secondary FIRES with appropriate materials.

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 gas.

Explosion Hazard: May form flammable/explosive vapor-air mixture. Container may explode in heat of fire.

Reactivity: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

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

Firefighting Instructions: Gas fires should not be extinguished unless flow of gas can be immediately stopped. Shut off gas source and allow gas to burn out. If spill or leak has not ignited, determine if water spray may assist in dispersing gas or vapor to protect personnel attempting to stop leak.

Use water to cool equipment, surfaces and containers exposed to fire and excessive heat. For large fire the use of unmanned hose holders or monitor nozzles may be advantageous to further minimize personnel exposure.

Isolate area, particularly around ends of storage vessels. Let vessel, tank car or container burn unless leak can be stopped. Withdraw immediately in the event of a rising sound from a venting safety device. Large fires typically require specially trained personnel and equipment to isolate and extinguish fire.

Firefighting activities that may result in potential exposure to high heat, smoke or toxic by-products of combustion should require NIOSH – approved pressure demand self-contained breathing apparatus with full face piece and full protective clothing.

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

Hazardous Combustion Products: Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and oxides of sulfur and/or nitrogen. Hydrogen sulfide and other sulfur-containing gases can evolve from this product at elevated temperatures.

Other Information: Use water spray to disperse vapors.

Reference to Other Sections

Refer to Section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Eliminate every possible source of ignition. Do not get in eyes, on skin, or on clothing. Do not breathe gas.

6.1.1. For Non-Emergency Personnel

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


6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit. Evacuate unnecessary personnel, isolate, and ventilate area. Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment: Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions. Ventilate area.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

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. Ruptured cylinders may rocket. Do not pressurize, cut, or weld containers. Asphyxiating gas at high concentrations.
**Precautions for Safe Handling:** Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Use only outdoors or in a well-ventilated area. Obtain special instructions before use. Do not breathe gas. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Avoid contact with skin, eyes and clothing.

**Hygiene Measures:** Handle in accordance with good industrial hygiene and safety procedures.

### 7.2. Conditions for Safe Storage, Including Any Incompatibilities

**Technical Measures:** Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

**Storage Conditions:** Store only in approved containers. Bond and ground containers. Keep away from flame, sparks, excessive temperatures and open flame. Keep container closed and clearly labeled. Empty product containers or vessels may contain explosive vapors. Do not pressurize, cut, heat, weld, or expose such containers to sources of ignition.

Store in a well-ventilated area and in accordance with NFPA 58 “Liquefied Petroleum Gas Code”.

**Incompatible Materials:** Strong acids, strong bases, strong oxidizers.

### 7.3. Specific End Use(s)

Light gases from distilled and catalytically-cracked petroleum oil consisting of hydrogen and hydrocarbons having carbon numbers in the range of C$_1$ through C$_4$, predominantly methane and ethane (> 80%).

### 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), AIHA (WEEL), NIOSH (REL), OSHA (PEL), or Canadian provincial governments.

**Ethane (74-84-0)**

<table>
<thead>
<tr>
<th></th>
<th>Alberta OEL TWA (ppm)</th>
<th>British Columbia OEL TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>1000 ppm</td>
<td></td>
</tr>
<tr>
<td>British Columbia</td>
<td>1000 ppm</td>
<td></td>
</tr>
</tbody>
</table>

**Ethylene (74-85-1)**

<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH ACGIH TWA (ppm)</th>
<th>USA ACGIH ACGIH chemical category</th>
<th>Alberta OEL TWA (mg/m$^3$)</th>
<th>Alberta OEL TWA (ppm)</th>
<th>British Columbia OEL TWA (ppm)</th>
<th>Ontario OEL TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>200 ppm</td>
<td>Not Classifiable as a Human Carcinogen</td>
<td>229 mg/m$^3$</td>
<td>200 ppm</td>
<td>200 ppm</td>
<td>200 ppm</td>
</tr>
<tr>
<td>Alberta</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>British Columbia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ontario</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Hydrogen (1333-74-0)**

<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH ACGIH chemical category</th>
<th>Simple asphyxiant See Appendix F: Minimal Oxygen Content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td></td>
<td></td>
</tr>
<tr>
<td>British Columbia</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Methane (74-82-8)**

<table>
<thead>
<tr>
<th></th>
<th>British Columbia OEL TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alberta</td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

**Propene (115-07-1)**

<table>
<thead>
<tr>
<th></th>
<th>USA ACGIH ACGIH TWA (ppm)</th>
<th>USA ACGIH ACGIH chemical category</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA ACGIH</td>
<td>500 ppm</td>
<td>Not Classifiable as a Human Carcinogen</td>
</tr>
<tr>
<td>Alberta</td>
<td>860 mg/m$^3$</td>
<td></td>
</tr>
<tr>
<td>Alberta</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td>British Columbia</td>
<td>500 ppm</td>
<td></td>
</tr>
<tr>
<td>Ontario</td>
<td>500 ppm</td>
<td></td>
</tr>
</tbody>
</table>

#### 8.2. Exposure Controls

**Appropriate Engineering Controls:** Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Gas detectors should be used when flammable gases or vapors may be released. Gas detectors should be used when toxic gases may be released. Oxygen detectors should be used when asphyxiating gases may be released.

Materials for Protective Clothing: Chemically resistant materials and fabrics. Wear fire/flame resistant/retardant clothing.

Hand Protection: Wear protective gloves. If material is cold, wear thermally resistant protective gloves.

Eye and Face Protection: Chemical safety goggles.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: Use a NIOSH/MSHA approved positive-pressure, supplied air respirator with escape bottle or self-contained breathing apparatus (SCBA) for gas concentrations above occupational exposure limits, for potential for uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere.

CAUTION: Flammability limits (i.e., explosion hazard) should be considered when assessing the need to expose personnel to concentrations requiring respiratory protection.


Thermal Hazard Protection: Wear thermally resistant 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Gas</td>
</tr>
<tr>
<td>Appearance</td>
<td>Colorless Gas</td>
</tr>
<tr>
<td>Odor</td>
<td>Sulfur-Like or &quot;Natural Gas-Like&quot; Odor</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>Not available</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>-127.5 °F (-88.61 °C)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>-211 °F (-135 °C)</td>
</tr>
<tr>
<td>Auto-ignition Temperature</td>
<td>882 °F (472.22 °C)</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Extremely flammable gas</td>
</tr>
<tr>
<td>Lower Flammable Limit</td>
<td>3 %</td>
</tr>
<tr>
<td>Upper Flammable Limit</td>
<td>12.4 %</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>544 psig @ 70 °F (21 °C)</td>
</tr>
<tr>
<td>Relative Vapor Density at 20°C</td>
<td>1.04 @ 32 °F (0 °C)</td>
</tr>
<tr>
<td>Relative Density</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility</td>
<td>Slight</td>
</tr>
<tr>
<td>Partition Coefficient: N-Octanol/Water</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>Contains gas under pressure; may explode if heated</td>
</tr>
</tbody>
</table>

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability: Contains gas under pressure; may explode if heated.

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.4. **Conditions to Avoid:** Direct sunlight, extremely high or low temperatures, open flames, sources of ignition and incompatible materials.

10.5. **Incompatible Materials:** Strong acids, strong bases, strong oxidizers.

10.6. **Hazardous Decomposition Products:** None expected under normal conditions of use.

**SECTION 11: TOXICOLOGICAL INFORMATION**

11.1. **Information on Toxicological Effects - Product**

- **Acute Toxicity (Oral):** Not classified
- **Acute Toxicity (Dermal):** Not classified
- **Acute Toxicity (Inhalation):** Inhalation: gas: Harmful if inhaled.

**LD50 and LC50 Data:**

<table>
<thead>
<tr>
<th>Sales Gas</th>
<th>ATE US/CA (gas)</th>
<th>4,500.00 ppmV/4h</th>
</tr>
</thead>
</table>

**Skin Corrosion/Irritation:** Not classified

**Eye Damage/Irritation:** Not classified

**Respiratory or Skin Sensitization:** Not classified

**Germ Cell Mutagenicity:** May cause genetic defects.

**Carcinogenicity:** May cause cancer.

**Specific Target Organ Toxicity (Repeated Exposure):** May cause damage to organs through prolonged or repeated exposure.

**Reproductive Toxicity:** May damage fertility or the unborn child.

**Specific Target Organ Toxicity (Single Exposure):** Not classified

**Aspiration Hazard:** Not classified

**Symptoms/Injuries After Inhalation:** Inhalation is likely to cause adverse health effects including but not limited to: irritation, difficulty breathing, and unconsciousness. In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death. This product is a simple asphyxiant. In high concentrations it will displace oxygen from the breathing atmosphere, particularly in confined spaces. Signs of asphyxiation will be noticed when oxygen is reduced to below 16%, and may occur in several stages. Symptoms may include rapid breathing and pulse rate, headache, dizziness, visual disturbances, mental confusion, incoordination, mood changes, muscular weakness, tremors, cyanosis, narcosis and numbness of the extremities. Unconsciousness leading to central nervous system injury and possibly death will occur when the atmospheric oxygen concentration is reduced to about ≤8%.

**WARNING:** The burning of any hydrocarbon as a fuel in an area without adequate ventilation may result in hazardous levels of combustion products, including carbon monoxide, and inadequate oxygen levels, which may cause unconsciousness, suffocation, and death.

**Symptoms/Injuries After Skin Contact:** Contact with gas/liquid escaping the container can cause frostbite and freeze burns.

**Symptoms/Injuries After Eye Contact:** Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.

**Symptoms/Injuries After Ingestion:** Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.

**Chronic Symptoms:** May cause genetic defects. May cause cancer. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure.

11.2. **Information on Toxicological Effects - Ingredient(s)**

**LD50 and LC50 Data:**

<table>
<thead>
<tr>
<th>Fuel gases, crude oil distillates (68476-29-9)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE US/CA (gas)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ethane (74-84-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Inhalation Rat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hydrogen (1333-74-0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Inhalation Rat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Propene (115-07-1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>LC50 Inhalation Rat</td>
</tr>
</tbody>
</table>
Ethylene (74-85-1)
IARC Group 3
Propene (115-07-1)
IARC Group 3

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecology - General: Not classified.

Ethylene (74-85-1)
ErC50 (algae) 72 mg/l
NOEC Chronic Fish 13 mg/l

Propene (115-07-1)
ErC50 (algae) 33.39 mg/l

12.2. Persistence and Degradability

Sales Gas
Persistence and Degradability Not established.

12.3. Bioaccumulative Potential

Sales Gas
Bioaccumulative Potential Not established.

Fuel gases, crude oil distillates (68476-29-9)
Log Pow <= 2.8

Ethane (74-84-0)
Log Pow <= 2.8

Ethylene (74-85-1)
BCF Fish 1 4 - 4.6
Log Pow 0.053

Hydrogen (1333-74-0)
BCF Fish 1 (no bioaccumulation expected)
Log Pow <= 2.8

12.4. Mobility in Soil
Not available

12.5. Other Adverse Effects
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: Container may remain hazardous when empty. Continue to observe all precautions. Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to the vendor for recycling or refilling. Do not puncture or incinerate container.

Ecology - Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued.

14.1. In Accordance with DOT
Proper Shipping Name: PETROLEUM GASES, LIQUEFIED
Hazard Class: 2.1
Identification Number: UN1075
Label Codes: 2.1
## 14.2. In Accordance with IMDG

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>PETROLEUM GASES, LIQUEFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Identification Number</td>
<td>UN1075</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.1</td>
</tr>
<tr>
<td>EmS-No. (Fire)</td>
<td>F-D</td>
</tr>
<tr>
<td>EmS-No. (Spillage)</td>
<td>S-U</td>
</tr>
</tbody>
</table>

## 14.3. In Accordance with IATA

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>PETROLEUM GASES, LIQUEFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
<td>UN1075</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.1</td>
</tr>
<tr>
<td>ERG Code (IATA)</td>
<td>10L</td>
</tr>
</tbody>
</table>

## 14.4. In Accordance with TDG

<table>
<thead>
<tr>
<th>Proper Shipping Name</th>
<th>PETROLEUM GASES, LIQUEFIED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification Number</td>
<td>UN1075</td>
</tr>
<tr>
<td>Hazard Class</td>
<td>2.1</td>
</tr>
<tr>
<td>Label Codes</td>
<td>2.1</td>
</tr>
</tbody>
</table>

### SECTION 15: REGULATORY INFORMATION

#### 15.1. US Federal Regulations

<table>
<thead>
<tr>
<th>SARA Section 311/312 Hazard Classes</th>
<th>Fire hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sudden release of pressure hazard</td>
</tr>
<tr>
<td></td>
<td>Immediate (acute) health hazard</td>
</tr>
<tr>
<td></td>
<td>Delayed (chronic) health hazard</td>
</tr>
</tbody>
</table>

Fuel gases, crude oil distillates (68476-29-9)
- 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

Ethylene (74-85-1)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

<table>
<thead>
<tr>
<th>SARA Section 313 - Emission Reporting</th>
<th>1 %</th>
</tr>
</thead>
</table>

Hydrogen (1333-74-0)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

Methane (74-82-8)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

Propene (115-07-1)
- Listed on the United States TSCA (Toxic Substances Control Act) inventory

Subject to reporting requirements of United States SARA Section 313

<table>
<thead>
<tr>
<th>SARA Section 313 - Emission Reporting</th>
<th>1 %</th>
</tr>
</thead>
</table>

#### 15.2. US State Regulations

Ethane (74-84-0)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
- U.S. - Pennsylvania - RTK (Right to Know) List

Ethylene (74-85-1)
- U.S. - Massachusetts - Right To Know List
- U.S. - New Jersey - Right to Know Hazardous Substance List
According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

10/31/2018

Other Information:
This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200 and Canada's Hazardous Products Regulations (HPR) SOR/2015-17.

GHS Full Text Phrases:

- **H280**: Contains gas under pressure; may explode if heated
- **Acute Tox. 4 (Inhalation:gas)**: Acute toxicity (inhalation:gas) Category 4
- **Aquatic Acute 3**: Hazardous to the aquatic environment - Acute Hazard Category 3
- **Aquatic Chronic 3**: Hazardous to the aquatic environment - Chronic Hazard Category 3
- **Carc. 1B**: Carcinogenicity Category 1B
- **Flam. Gas 1**: Flammable gases Category 1
- **Muta. 1A**: Germ cell mutagenicity Category 1A
- **Press. Gas (Comp.)**: Gases under pressure Compressed gas
- **Press. Gas (Liq.)**: Gases under pressure Liquefied gas
- **Repr. 1A**: Reproductive toxicity Category 1A
- **Simple Asphy**: Simple Asphyxiant
- **STOT RE 2**: Specific target organ toxicity (repeated exposure) Category 2
- **STOT SE 3**: Specific target organ toxicity (single exposure) Category 3
- **H220**: Extremely flammable gas
Sales Gas
Safety Data Sheet SDS No. 15053
According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations And According To The Hazardous Products Regulation (February 11, 2015).

<table>
<thead>
<tr>
<th>H280</th>
<th>Contains gas under pressure; may explode if heated</th>
</tr>
</thead>
<tbody>
<tr>
<td>H332</td>
<td>Harmful if inhaled</td>
</tr>
<tr>
<td>H336</td>
<td>May cause drowsiness or dizziness</td>
</tr>
<tr>
<td>H340</td>
<td>May cause genetic defects</td>
</tr>
<tr>
<td>H350</td>
<td>May cause cancer</td>
</tr>
<tr>
<td>H360</td>
<td>May damage fertility or the unborn child</td>
</tr>
<tr>
<td>H373</td>
<td>May cause damage to organs through prolonged or repeated exposure</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
<tr>
<td>H412</td>
<td>Harmful to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

**NFPA Health Hazard**: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

**NFPA Fire Hazard**: 4 - Materials that rapidly or completely vaporize at atmospheric pressure and normal ambient temperature or that are readily dispersed in air and burn readily.

**NFPA Reactivity Hazard**: 0 - Material that in themselves are normally stable, even under fire conditions.

**NFPA Specific Hazards**: SA - This denotes gases which are simple asphyxiants.

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.

NA GHS SDS 2015 (Can, US)