

# SAFETY DATA SHEET

Sour LPG's

  
HOLLYFRONTIER

## Section 1. Identification

<b>Product name</b>	: Sour LPG's
<b>Synonyms</b>	: Alky Feed, CDU Debutanizer Overhead, Coker Debutanizer O/H Liquid, Coker olefin, FCC Debut Overhead, FCC Olefin, FCCU Depropanizer Bottoms, FCCU Depropanizer Overhead, Gas Con Olefin, LERU Butane, LERU Propane, Merox Feed, PBC Butane, PBC Propane, PBs, Sour Olefin, Sour Olefin Feed, Stabilizer LPG

### Relevant identified uses of the substance or mixture and uses advised against

<b>Product use</b>	: Intermediate.
<b>Manufacturer</b>	: HollyFrontier Refining & Marketing LLC 2828 North Harwood Suite 1300 Dallas, Texas 75201 USA Customer Service: (888) 286-8836
<b>Emergency telephone number</b>	: CHEMTRIC® (800) 424-9300 CCN 201319

## Section 2. Hazards identification

<b>OSHA/HCS status</b>	: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
<b>Classification of the substance or mixture</b>	: FLAMMABLE GASES - Category 1 GASES UNDER PRESSURE - Liquefied gas ACUTE TOXICITY (inhalation) - Category 4 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

### GHS label elements

<b>Hazard pictograms</b>	:    
<b>Signal word</b>	: Danger
<b>Hazard statements</b>	: Extremely flammable gas. Contains gas under pressure; may explode if heated. Harmful if inhaled. Causes damage to organs.
<b>Precautionary statements</b>	
<b>Prevention</b>	: Keep away from heat, sparks, open flames and hot surfaces. - No smoking. Use only outdoors or in a well-ventilated area. Do not breathe gas. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.
<b>Response</b>	: IF exposed: Call a POISON CENTER or physician. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. Leaking gas fire: Do not extinguish, unless leak can be stopped safely. Eliminate all ignition sources if safe to do so.
<b>Storage</b>	: Protect from sunlight. Store in a well-ventilated place.
<b>Disposal</b>	: Dispose of contents and container in accordance with all local, regional, national and international regulations.
<b>Hazards not otherwise classified</b>	: Liquid can cause burns similar to frostbite.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

### CAS number/other identifiers

**CAS number** : Not available.  
**Product code** : Not available.

Ingredient name	%	CAS number
propane	0 - 60	74-98-6
Butane	0 - 60	106-97-8
ethane	0 - 15	74-84-0
methane	0 - 10	74-82-8
butene	0 - 10	25167-67-3
propene	0 - 10	115-07-1
hydrogen sulfide	≥1	7783-06-4

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention. If necessary, call a poison center or physician. Continue to rinse for at least 15 minutes.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

**Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. To avoid the risk of static discharges and gas ignition, soak contaminated clothing thoroughly with water before removing it. Continue to rinse for at least 15 minutes. Get medical attention. If necessary, call a poison center or physician. In case of contact with liquid, warm frozen tissues slowly with lukewarm water and get medical attention. Do not rub affected area. Wash clothing before reuse. Clean shoes thoroughly before reuse.

**Ingestion** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention. If necessary, call a poison center or physician. Ingestion of liquid can cause burns similar to frostbite. If frostbite occurs, get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. As this product rapidly becomes a gas when released, refer to the inhalation section.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : Liquid can cause burns similar to frostbite.

**Inhalation** : Harmful if inhaled. Mixture contains materials that are irritants, CNS depressants and cause irregular heartbeats/cardiac sensitization.

**Skin contact** : Dermal contact with rapidly evaporating liquid could result in freezing of the tissues or frostbite.

**Ingestion** : Ingestion of liquid can cause burns similar to frostbite.

**Over-exposure signs/symptoms**

**Eye contact** : frostbite

**Inhalation** : respiratory tract irritation; coughing; nausea or vomiting; headache; drowsiness/fatigue; dizziness/vertigo; unconsciousness

**Skin contact** : frostbite

**Ingestion** : frostbite

**Indication of immediate medical attention and special treatment needed, if necessary**

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Avoid the use of epinephrine due to cardiac sensitization properties of this material.

**Specific treatments** : No specific treatment.

**Protection of medical responders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : Contains gas under pressure. Extremely flammable gas. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
sulfur oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Contact supplier immediately for specialist advice. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. If involved in fire, shut off flow immediately if it can be done without risk. If this is impossible, withdraw from area and allow fire to burn. Fight fire from protected location or maximum possible distance. Eliminate all ignition sources if safe to do so.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. For incidents involving large quantities, thermally insulated undergarments and thick textile or leather gloves should be worn.

## Section 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** : Accidental releases pose a serious fire or explosion hazard. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing gas. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. May release hydrogen sulfide a poisonous gas that can accumulate in

**For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Ensure emergency procedures to deal with accidental gas releases are in place to avoid contamination of the environment. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

#### Methods and materials for containment and cleaning up

**Small spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment.

**Large spill** : Immediately contact emergency personnel. Stop leak if without risk. Use spark-proof tools and explosion-proof equipment. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

#### Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Contains gas under pressure. Do not get in eyes or on skin or clothing. Do not breathe gas. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous. Do not puncture or incinerate container. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10). Eliminate all ignition sources. Keep container tightly closed and sealed until ready for use.

## Section 8. Exposure controls/personal protection

#### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits		
propane	OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hours. TWA: 1800 mg/m <sup>3</sup> 8 hours. OSHA PEL (United States, 2/2013). TWA: 1000 ppm 8 hours. TWA: 1800 mg/m <sup>3</sup> 8 hours.	ACGIH TLV (United States, 6/2013). STEL: 1000 ppm 15 minutes.	NIOSH REL (United States, 4/2013). TWA: 1000 ppm 10 hours. TWA: 1800 mg/m <sup>3</sup> 10 hours.
Butane	OSHA PEL 1989 (United States, 3/1989). TWA: 800 ppm 8 hours. TWA: 1900 mg/m <sup>3</sup> 8 hours.	ACGIH TLV (United States, 6/2013). STEL: 1000 ppm 15 minutes.	NIOSH REL (United States, 4/2013). TWA: 800 ppm 10 hours. TWA: 1900 mg/m <sup>3</sup> 10 hours.
butene	-	ACGIH TLV (United States, 6/2013). TWA: 250 ppm 8 hours.	
propene	-	ACGIH TLV (United States, 6/2013). TWA: 500 ppm 8 hours.	
hydrogen sulfide	OSHA PEL 1989 (United States, 3/1989). TWA: 10 ppm 8 hours. TWA: 14 mg/m <sup>3</sup> 8 hours.	ACGIH TLV (United States, 6/2013). TWA: 1 ppm 8 hours. STEL: 5 ppm 15 minutes.	NIOSH REL (United States, 10/2013). CEIL: 10 ppm 10 minutes. CEIL: 15 mg/m <sup>3</sup> 10 minutes.

	STEL: 15 ppm 15 minutes. STEL: 21 mg/m <sup>3</sup> 15 minutes. <b>OSHA PEL Z2 (United States, 2/2013).</b> CEIL: 20 ppm AMP: 50 ppm 10 minutes.		
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### Appropriate engineering controls

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment. May release hydrogen sulfide a poisonous gas that can accumulate in confined spaces.

### Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

#### Hygiene measures

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

#### Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

##### Hand protection

- : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. If contact with the liquid is possible, insulated gloves suitable for low temperatures should be worn. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

##### Body protection

- : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

##### Other skin protection

- : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

##### Respiratory protection

- : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

#### Physical state

- : Gas. [Liquefied compressed gas.]

#### Color

- : Colorless.

#### Odor

- : Mild. to Rotten eggs.

#### Odor threshold

- : Not available.

#### pH

- : Not available.

#### Melting point

- : Not available.

#### Boiling point

- : Not available.

<b>Flash point</b>	: <-18°C (<-0°F)
<b>Evaporation rate</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Flammable
<b>Lower and upper explosive (flammable) limits</b>	: Lower: 2% Upper: 9%
<b>Vapor pressure</b>	: 41.4 to 1447.7 kPa (310.26 to 10859 mm Hg) [room temperature] 6 - 210 psi
<b>Vapor density</b>	: Not available.
<b>Specific gravity</b>	: 0.5 to 0.57
<b>Solubility</b>	: Insoluble in the following materials: cold water and hot water.
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: >288°C (>550°F)
<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Molecular weight</b>	: Not applicable.

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
propane	LC50 Inhalation Gas.	Rat	>20 mg/l	4 hours
Butane	LC50 Inhalation Gas.	Rat	>20 mg/l	4 hours
hydrogen sulfide	LC50 Inhalation Gas.	Rat	444 ppm	4 hours

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases.  
Specific target organ toxicity: Narcotic in high concentrations.

#### Irritation/Corrosion

Not available.

#### Mutagenicity

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases. No mutagenic effect.

#### Carcinogenicity

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases. No carcinogenic effect.

Product/ingredient name	OSHA	IARC	NTP
propene	-	3	-

#### Reproductive toxicity

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases. Not considered to be toxic to the reproductive system.

#### Teratogenicity

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases. No teratogenic effect. Prolonged hypoxia during pregnancy may result in adverse effects on the developing fetus.

#### Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
hydrogen sulfide	Category 1	Not determined	cardiovascular system and lungs
	Category 3	Not applicable.	Respiratory tract irritation and Narcotic effects

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Inhalation.

#### Delayed and immediate effects and also chronic effects from short and long term exposure

##### Short term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

##### Long term exposure

**Potential immediate effects** : Not available.

**Potential delayed effects** : Not available.

##### Potential chronic health effects

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases. Specific target organ toxicity unknown.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

#### Numerical measures of toxicity

##### Acute toxicity estimates

Route	ATE value
Inhalation (gases)	7063.6 ppm

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
hydrogen sulfide	Acute EC50 62 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus Fish - Coregonus clupeaformis - Yolk-sac fry	2 days
	Acute LC50 2 µg/l Fresh water		96 hours

### Persistence and degradability

**Conclusion/Summary** : Based on CONCAWE assessment of petroleum gases. This product is readily biodegradable. (Calculation method)

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
propane	1.09	-	low
Butane	2.89	-	low
ethane	1.09	-	low
methane	1.09	-	low
butene	2.31 to 2.4	-	low
propene	1.77	-	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Empty pressure vessels should be returned to the supplier. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

### United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Hydrogen sulfide; Hydrogen sulfide H <sub>2</sub> S	7783-06-4	Listed	U135

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	UN1075	UN1075	UN1075	UN1075	UN1075	UN1075

<b>UN proper shipping name</b>	Petroleum gases, liquefied RQ (hydrogen sulfide)	PETROLEUM GASES, LIQUEFIED	GASES LICUADOS DEL PETROLEO	PETROLEUM GASES, LIQUEFIED (propane, Butane)	PETROLEUM GASES, LIQUEFIED. Marine pollutant (hydrogen sulfide)	Petroleum gases, liquefied	
<b>Transport hazard class(es)</b>	2.1 	2.1 	2.1 	2  	2.1  	2.1 	
<b>Packing group</b>	-	-	-	-	-	-	
<b>Environmental hazards</b>	No.	No.	No.	No.	Yes.	No.	
<b>Additional information</b>	<p><b>Reportable quantity</b> 9090.9 lbs / 4127.3 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> <p><b>Limited quantity</b> Yes.</p> <p><b>Packaging instruction</b> Passenger aircraft Quantity limitation: Forbidden.</p> <p><b>Cargo aircraft</b> Quantity limitation: 150 kg</p> <p><b>Special provisions</b> T50</p>	<p><b>Explosive Limit and Limited Quantity Index</b> 0.12</p> <p><b>ERAP Index</b> 3000</p> <p><b>Passenger Carrying Ship Index</b> 65</p> <p><b>Passenger Carrying Road or Rail Index</b> Forbidden</p>	-	<p>The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b>Hazard identification number</b> 23</p> <p><b>Limited quantity</b> 0</p> <p><b>Special provisions</b> 274, 583, 639, 660</p> <p><b>Tunnel code</b> (B/D)</p>	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b>Emergency schedules (EmS)</b> _F-D_, S-U</p>	<p>The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.</p> <p><b>Emergency schedules (EmS)</b> _F-D_, S-U</p>	<p>The environmentally hazardous substance mark may appear if required by other transportation regulations.</p> <p><b>Passenger and Cargo Aircraft</b> Quantity limitation: Forbidden <b>Cargo Aircraft</b> <b>Only</b>Quantity limitation: 150 kg Packaging instructions: 200</p> <p><b>Limited Quantities - Passenger Aircraft</b> Quantity limitation: Forbidden Packaging instructions: Forbidden</p> <p><b>Special provisions</b> A1</p>

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

**U.S. Federal regulations** : **United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 311:** hydrogen sulfide  
**Clean Air Act (CAA) 112 regulated flammable substances:** propane; Butane; ethane; methane; butene; propene  
**Clean Air Act (CAA) 112 regulated toxic substances:** hydrogen sulfide

**Clean Air Act Section 112** : Listed  
**(b) Hazardous Air Pollutants (HAPs)**

### SARA 302/304

#### Composition/information on ingredients

Name	%	EHS	SARA 302 TPQ		SARA 304 RQ	
			(lbs)	(gallons)	(lbs)	(gallons)
hydrogen sulfide	≥1	Yes.	500	-	100	-

**SARA 304 RQ** : 9090.9 lbs / 4127.3 kg

### SARA 311/312

**Classification** : Fire hazard  
Sudden release of pressure  
Immediate (acute) health hazard

#### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
propane	0 - 60	Yes.	Yes.	No.	Yes.	No.
Butane	0 - 60	Yes.	Yes.	No.	Yes.	No.
ethane	0 - 15	Yes.	Yes.	No.	No.	No.
methane	0 - 10	Yes.	Yes.	No.	No.	No.
butene	0 - 10	Yes.	Yes.	No.	No.	No.
propene	0 - 10	Yes.	Yes.	No.	Yes.	No.
hydrogen sulfide	≥1	Yes.	Yes.	No.	Yes.	No.

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	propene hydrogen sulfide	115-07-1 7783-06-4	0 - 10 ≥1
<b>Supplier notification</b>	propene hydrogen sulfide	115-07-1 7783-06-4	0 - 10 ≥1

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

**Massachusetts** : The following components are listed: PROPANE; BUTANE; ETHANE; METHANE; PROPYLENE (PROPENE); HYDROGEN SULFIDE

**New York** : The following components are listed: Hydrogen sulfide; Hydrosulfuric acid

**New Jersey** : The following components are listed: PROPANE; BUTANE; ETHANE; METHANE; BUTYLENE; BUTENE; PROPYLENE; 1-PROPENE; HYDROGEN SULFIDE

**Pennsylvania** : The following components are listed: PROPANE; BUTANE; ETHANE; METHANE; BUTENES; 1-PROPENE; HYDROGEN SULFIDE (H<sub>2</sub>S)

### California Prop. 65

None of the components are listed.

**Canada inventory** : All components are listed or exempted.

#### International regulations

**International lists** :

- Australia inventory (AICS)**: All components are listed or exempted.
- China inventory (IECSC)**: All components are listed or exempted.
- Japan inventory**: All components are listed or exempted.
- Korea inventory**: All components are listed or exempted.
- Malaysia Inventory (EHS Register)**: Not determined.
- New Zealand Inventory of Chemicals (NZIoc)**: All components are listed or exempted.
- Philippines inventory (PICCS)**: All components are listed or exempted.
- Taiwan inventory (CSNN)**: Not determined.

## Section 16. Other information

### National Fire Protection Association (U.S.A.)



Reprinted with permission from NFPA 704-2001, Identification of the Hazards of Materials for Emergency Response Copyright ©1997, National Fire Protection Association, Quincy, MA 02269. This reprinted material is not the complete and official position of the National Fire Protection Association, on the referenced subject which is represented only by the standard in its entirety.

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

**Date of issue/Date of revision** : 9/9/2014.

**Date of previous issue** : No previous validation.

**Version** : 1

**Key to abbreviations** :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- UN = United Nations

► Indicates information that has changed from previously issued version.

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named manufacturer, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.