

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Form: Mixture

Product Name: R290

CAS No: 68476-86-8 (Petroleum gases, liquefied, sweetened)

Chemical Name: Isobutane (1.91 Mole%) / Propane (98.09 Mole%)

1.2. Intended Use of the Product

Use of the substance/mixture: Various

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

Company

Fysis Natures Refrigerant

1324 N. Hearne Avenue

Suite 200

Shreveport, LA 71107

Ph. 318.213.1205

Fax. 318.213.1270

1.4. Emergency Telephone Number

Emergency Number : CHEMTREC (US/Canada) 1-800-424-9300 (International) +01 703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Simple Asphy

Flam. Gas 1 H220

Liquefied gas H280

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.

May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

: P210 - Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.

P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381 - Eliminate all ignition sources if safe to do so.

P403 - Store in a well-ventilated place.

P410+P403 - Protect from sunlight. Store in a well-ventilated place.

2.3. Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions. Contact with the product may cause cold burns or frostbite.

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Not applicable

3.2. Mixture

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product Identifier	%	Classification (GHS-US)
Petroleum gases, liquefied, sweetened	(CAS No) 68476-86-8	100	Simple Asphy Flam. Gas 1, H220 Liquefied gas, H280
Contains	Product Identifier	% (v/v)	Classification (GHS-US)
Propane	(CAS No) 74-98-6	≥ 97.73	Simple Asphy Flam. Gas 1, H220 Liquefied gas, H280
Isobutane	(CAS No) 75-28-5	≤ 2.27	Simple Asphy Flam. Gas 1, H220 Liquefied gas, H280

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 hazard 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. Call a POISON CENTER or 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. Seek medical attention. 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 Eye Contact: Rinse eyes cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. 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 Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention.

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

Symptoms/Injuries: Asphyxiant gas. May cause drowsiness, dizziness and nausea.

Symptoms/Injuries After Inhalation: Asphyxiant gas, can be fatal. May cause damage to the blood, central nervous system, and cardiovascular system. High concentrations of gas can cause unconsciousness and death. Being under the influence of alcohol may enhance the effects of this product. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Causes drowsiness in a short time in concentrations of 1%

Symptoms/Injuries After Skin Contact: May cause frostbite on contact with the liquefied gas.

Symptoms/Injuries After Eye Contact: Non irritating. However, contact with pressurized vapor, or liquefied gas may cause frostbite, freeze burns, and permanent eye damage.

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

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

If exposed or concerned, get medical advice and attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Water spray. Water fog. Dry chemical powder. Carbon dioxide (CO₂). 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. The product can accumulate electrostatic charges, which may cause an electrical spark (ignition source). Fire may produce irritating, corrosive and/or toxic gases. Vapors may travel considerable distance to a source of ignition and flash back.

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: Hazardous reactions will not occur under normal conditions.

5.3. Advice for Firefighters

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

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Firefighting Instructions: Leaking gas fire: Do not extinguish, unless leak can be stopped safely. In case of leaking gas fire, eliminate all ignition sources if safe to do so. Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Specific methods: Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out.

Fire fighters should do the following:

- *Fight fire from the maximum distance possible, or use unmanned hose holders or monitor nozzles.
- *Cool containers by flooding them with large quantities of water until well after fire is out.
- *Do not direct water at the source of leak or at safety devices; icing may occur.
- *Leave the area immediately if you hear a rising sound from venting safety devices or see discoloration of the tank.
- *For massive fires, use unmanned hose holders or monitor nozzles; if this is impossible, leave the area and let the fire burn.
- *Be aware that when a BLEVE occurs, sections of the tank can fly in any direction. Just avoiding the ends the tank should not be considered a safe operating procedure.

Fire departments should do the following:

- *Follow the OSHA regulations [29 CFR 1910.120 (q)]. Emergency response to hazardous substance releases. These regulations should be incorporated into fire department standard operating procedures (SOPs), which should be strictly enforced.
- *Train first responders to be aware of the hazards associated with propane tank fires, including BLEVE.

*CFR = Code of Federal Regulations.

*Ensure that fire department code enforcement personnel adhere to the guidelines specified by the NFPA for the evaluation and certification of propane tanks.

*For more information about safe fire fighting procedures for propane tank fires, contact the NFPA, or the National Propane Gas Association (NPGA).

Propane tank owners and users should do the following:

1. Protect above ground external piping from physical damage with fencing or other protection.
2. Equip propane tank piping with excess-flow valves and emergency shutoff valves in accordance with the NFPA 58, LP-Gas Code.

General Fire Hazards - Extremely flammable gas.

Product is highly flammable and forms explosive mixtures with air, oxygen, and all oxidizing agents. Extreme hazard; gas leaks or liquid spills readily form flammable mixtures at temperatures below ambient. Risk of fire or explosion by mechanical impact, friction, sparks, flames or other sources of ignition. Auto refrigeration; drains can be plugged and valves made inoperable by the formation of ice when expanding vapors or vaporizing liquid cause temperatures to fall below 0°C. Vapors settle to ground level and may reach ignition sources remote from the point of escape via drains and other underground passages. Static discharge; material can accumulate static charges which may cause an incendiary electrical discharge.

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 extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking. Ruptured cylinders may rocket. Many gases are heavier than air and will spread along ground and collect in low or confined areas (sewers, basements, tanks). Wear appropriate protective equipment and clothing during clean-up. Emergency personnel need self-contained breathing equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. Do not breathe gas. Do not get in eyes, on skin, on clothing.

6.1.1. For Non-emergency Personnel

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

Emergency Procedures: Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Emergency Procedures: Ventilate area.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: As an immediate precautionary measure, isolate spill or leak area in all directions. Remove ignition sources.

Methods for Cleaning Up: 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 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. Extremely flammable gas. Do not pressurize, cut, or weld containers. Ruptured cylinders may rocket. Do NOT breathe (gas). Do not get in eyes, on skin, or on clothing.

Precautions for Safe Handling: Keep away from extremely high or low temperatures, ignition sources, and incompatible materials. - No smoking.

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.

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.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep in fireproof place. Keep/Store away from direct sunlight, all ignition sources, high or low temperatures, incompatible materials. The design of pressure vessels, fuel systems, safety devices and operating procedures must comply with recognized codes of good practice.

If released, being heavier than air, this product may collect in any confined space and may reach concentrations presenting an asphyxiation or safety hazard and may be ignited by pilot lights, other flames, sparks, heaters, electric motors, static discharge, or other sources of ignition.

Direct contact of the skin with this product may cause frostbite or cold burns and containers may present a similar hazard when gas is being withdrawn, due to cooling effect. Handling precautions should be strictly observed.

If a tank fire occurs, the potential always exists for an explosion known as boiling liquid expanding vapor explosion (BLEVE). To reduce this risk, fire departments, fire fighters, and tank owners and users should follow the recommendations below.

This product is stored under pressure at ambient temperatures or as a refrigerated liquid. The design of pressure vessels, fuel systems, safety devices and operating procedures must comply with recognized codes of good practice. Small containers e.g. cylinders of approved design, properly sealed and in good condition, should be stored outdoors or in well ventilated storerooms, at no lower than ground level and must be quickly removable in an emergency. Eliminate all sources of ignition from the storage area.

Instruct personnel handling this product in potential hazards and precautions, and train them in safe handling and emergency procedures.

See section 16 for NFPA Reference Information.

Incompatible Products: Strong acids. Strong bases. Strong oxidizers.

Incompatible Materials: Heat sources. Direct sunlight. Heat.

Storage Area: Store in a well-ventilated place.

7.3. Specific End Use(s)

Various.

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).

Propane (74-98-6)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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
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

8.2. Exposure Controls

Appropriate Engineering Controls

- : Gas detectors should be used when flammable gases/vapors may be released. Oxygen detectors should be used when asphyxiating gases may be released. Explosion-proof general and local exhaust ventilation. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Proper grounding procedures to avoid static electricity should be followed. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment

- : Safety glasses with side-shields. Protective clothing. Gloves.



Materials for Protective Clothing

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

Hand Protection

- : Wear chemically resistant protective gloves.

Eye Protection

- : Safety glasses with side-shields, chemical goggles or face shield.

Respiratory Protection

- : Respiratory protection not normally required. NIOSH/MSHA approved positive-pressure self-contained breathing apparatus (SCBA) or Type C positive-pressure supplied air with escape bottle must be used for Gas concentrations above occupational exposure limits, for potential of uncontrolled release, if exposure levels are not known, or in an oxygen-deficient atmosphere. Refer to OSHA 29 CFR 1910.134, ANSI Z88.2-1992, NIOSH Respirator Decision Logic, and the manufacturer for additional guidance on respiratory protection selection.

Thermal Hazard Protection

- : Wear suitable thermal 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.
Odor	: Odorless
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting Point	: Gas
Freezing Point	: No data available
Boiling Point	: -42.59°F (-41.438°C) @1ATM
Flash Point	: -155.27°F (-104.039 °C) Closed Cup
Auto-ignition Temperature	: 450°C (842°F)
Decomposition Temperature	: No data available
Flammability (solid, gas)	: Extremely flammable gas
Vapor Pressure	: 108 psig @21.1°C (70°F)

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Relative Vapor Density at 20 °C	: 1.5324
Relative Density	: No data available
Specific Gravity	: 0.5102 @60°F (H2O = 1)
Solubility	: Water: Slightly
Partition Coefficient: N-Octanol/Water	: No data available
Viscosity	: No data available
Lower Flammable Limit	: 2.0 %
Upper Flammable Limit	: 9.5 %
Chemical Family	: Paraffin Hydrocarbon
Molecular Formula	: No data available
VOC Content (Weight %)	: 100%

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:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous reactions will not occur under normal conditions.
- 10.4. Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Sources of ignition. Incompatible materials.
- 10.5. Incompatible Materials:** Strong oxidizers, halogens.
- 10.6. Hazardous Decomposition Products:** Acrid smoke and irritating fumes.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Propane (74-98-6)	
LC50 Inhalation Rat	658 mg/l/4h
Isobutane (75-28-5)	
LC50 Inhalation Rat	658 mg/l/4h

Skin Corrosion/Irritation: Not classified

Serious Eye Damage/Irritation: Not classified

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Carcinogenicity: Not classified

Reproductive Toxicity: Not classified

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Not classified

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Asphyxiant gas, can be fatal. May cause damage to the blood, central nervous system, and cardiovascular system. High concentrations of gas can cause unconsciousness and death. Being under the influence of alcohol may enhance the effects of this product. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Causes drowsiness in a short time in concentrations of 1%.

Symptoms/Injuries After Skin Contact: May cause frostbite on contact with the liquefied gas.

Symptoms/Injuries After Eye Contact: Non irritating. However, contact with pressurized vapor, or liquefied gas may cause frostbite, freeze burns, and permanent eye damage.

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

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity No additional information available

12.2. Persistence and Degradability

R290	
Persistence and Degradability	The degradation of the NGL propellants does not take place by way of biological organisms. These are gases at atmospheric pressure and ambient temperature and their atmospheric life is measured in a matter of days. The degradation of the NGL propellants is accomplished via photolysis.

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

12.3. Bioaccumulative Potential

R290	
Bioaccumulative Potential	Not established.
Petroleum gases, liquefied, sweetened (68476-86-8)	
Log Pow	<= 2.8
Isobutane (75-28-5)	
BCF fish 1	1.57 - 1.97
Log Pow	2.88 (at 20 °C)
Propane (74-98-6)	
Log Pow	2.3

12.4. Mobility in Soil No additional information 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, and international regulations.

Additional Information: Handle empty containers with care because residual vapors are flammable. Empty gas cylinders should be returned to a licensed waste disposal site. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Read safety instructions, SDS and emergency procedures before handling.

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED or Liquefied petroleum gas
Hazard Class : 2.1
Identification Number : UN1075
Label Codes : 2.1
ERG Number : 115



14.2. In Accordance with IMDG

Read safety instructions, SDS and emergency procedures before handling.

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



14.3. In Accordance with IATA

Read safety instructions, SDS and emergency procedures before handling.

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



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

R290	
This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.	
GRAS List: The components of our propellants (propane, isobutane and normal butane) are listed on the Generally Recognized As Safe (GRAS) List, Part 184, Sub-Part B, Sec. 184.1165 and 184.1655 (Code of Federal Regulations).	
R290	
SARA Section 311/312 Hazard Classes	Sudden release of pressure hazard Fire hazard Immediate (acute) health hazard

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Propane (74-98-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Petroleum gases, liquefied, sweetened (68476-86-8)

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

15.2 US State Regulations

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

Petroleum gases, liquefied, sweetened (68476-86-8)

U.S. - Maine - Chemicals of High Concern
U.S. - Minnesota - Chemicals of High Concern

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

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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

15.3 International Regulations

Petroleum gases, liquefied, sweetened (68476-86-8)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Isobutane (75-28-5)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

Propane (74-98-6)

Listed on the AICS (Australian Inventory of Chemical Substances)
Listed on the Canadian DSL (Domestic Substances List)
Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China)
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory
Listed on the Korean ECL (Existing Chemicals List)
Listed on NZIoC (New Zealand Inventory of Chemicals)
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

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

Revision Date : 07/06/2017
Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

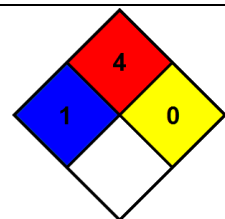
GHS Full Text Phrases:

Flam. Gas 1	Flammable gases Category 1
Liquefied gas	Gases under pressure Liquefied gas
Simple Asphy	Simple Asphyxiant
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated

NFPA Health Hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

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



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 4 Severe Hazard

Physical : 0 Minimal Hazard

R290

Safety Data Sheet

According to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

National Fire Protection Association Pamphlets 58 and 30B are essential reference documents related to the safe use, handling, and storage of this product.

NFPA 30B: Code for the Manufacture and Storage of Aerosol Products

NFPA 30B: Provides the necessary measures for the safe manufacture, storage, and display of aerosol products. NFPA 30B should be consulted for the specific requirements for the use of this product as a component in the manufacture of aerosol products. This code should also be consulted for general safety principles applicable to any industrial use of this product.

NFPA 30B: Recommends that the area in which aerosol cans are filled with this product (the "filling area") to be separated from the rest of the manufacturing facility by at least five feet or by non-communicating walls. NFPA 30B Recommends that the filling area feature a damage limiting construction. NFPA 30B recommends that the filling area contain a gas detection system, explosion proof equipment, a ventilation system, and an automatic fire suppression system. All of these measures are designed this product from reaching a source of ignition.

NFPA 30B: Contains numerous recommendations and many provisions which cannot be listed fully here. Please consult NFPA 30B to determine whether your manufacturing facility is properly engineered and constructed.

NFPA 58: Liquefied Petroleum Gas Code

NFPA 58: Applies to the storage, handling, transportation, and use of LP-Gases. LP-Gas This code should be consulted for the necessary requirements for the safe storage, handling and transportation of this product.

Special Precautions

Take precautionary measures against static discharge. Keep all connections for filling/emptying securely closed when not in use. Ensure that only containers/equipment of suitable pressure rating are used. Ensure that the permissible filling ratio for the product is not exceeded. Considerations for proper ventilation, explosion proof equipment, leak detection and explosion suppression requirements should be explored through a review of NFPA 30B and 58.

Disclaimer

This information relates to this specific material. It may not be valid for this material if used in combination with any other materials or in any process. It is the user's responsibility to satisfy oneself as to the suitability and completeness of this information for one's own particular use.

SDS US (GHS HazCom)