

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Name: Enviro-Safe R-290 8 oz

1.2. Intended Use of the Product Refrigerant

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

Company

Enviro-Safe Refrigerants, Inc.

400 Margaret Street

Pekin, IL 61554

309-346-1110

1.4. Emergency Telephone Number

Emergency Number : 1-800-424-9300

CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification (GHS-US)

Simple Asphy

Flam. Gas 1 H220

Liquefied gas H280

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.

Simple Asphy - May displace oxygen and cause rapid suffocation.

Precautionary Statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - 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

No additional information available

2.4. Unknown Acute Toxicity (GHS-US)

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substance

Name	Product Identifier	%	Classification (GHS-US)
Petroleum gases, liquefied	(CAS No) 68476-85-7	100	Simple Asphy Flam. Gas 1, H220 Liquefied gas, H280

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

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

First-aid Measures After Inhalation: When symptoms occur: go into open air and ventilate suspected area. Immediately call a POISON CENTER or doctor/physician.

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First-aid Measures After Skin Contact: 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 cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

First-aid Measures After Ingestion: Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

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

Symptoms/Injuries: Gas can be toxic as a simple asphyxiant by displacing oxygen from the air. Refrigerated liquefied gas. Contact with product may cause cold burns or frostbite.

Symptoms/Injuries After Inhalation: Asphyxiant gas.

Symptoms/Injuries After Skin Contact: May cause frostbite.

Symptoms/Injuries After Eye Contact: Contact with the liquefied gas causes frostbite.

Symptoms/Injuries After Ingestion: Ingestion is an unlikely route of exposure for a gas.

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

If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂).

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: Flammable gas.

Explosion Hazard: Heat may build pressure, rupturing closed containers, spreading fire and increasing risk of burns and injuries.

Reactivity: Contains gas under pressure; may explode if heated. Reacts with oxidants causing fire/explosion hazard.

5.3. Advice for Firefighters

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

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

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Use special care to avoid static electric charges. Keep away from open flames, hot surfaces and sources of ignition. No smoking. 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 protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Eliminate ignition sources.

6.1.2. For Emergency Responders

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions

Avoid release to the environment.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Stop leak without risks if possible. Do not take up in combustible material, such as saw dust.

Methods for Cleaning Up: Contact competent authorities after a spill.

6.4. Reference to Other Sections

See section 8, Exposure Controls and Personal Protection and section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Personnel should be trained to regularly inspect equipment such as pumps, hoses, and valves. Do not breathe gas. Ensure there is adequate ventilation. Close valve after each use and when empty. Open valve slowly to avoid pressure shock.

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: Comply with applicable regulations. Keep at temperatures below 52°C / 125°F.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep in fireproof place. Store locked up.

Incompatible Products: Heat sources. Oxidizers.

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7.3. Specific End Use(s) Refrigerant

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Petroleum gases, liquefied (68476-85-7)		
USA ACGIH	ACGIH TWA (ppm)	1000 ppm
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	1800 mg/m ³
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	2100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m ³)	1800 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	1000 ppm

8.2. Exposure Controls

Appropriate Engineering Controls

: Alarm detectors should be used when asphyxiant gases may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure all national/local regulations are observed.

Personal Protective Equipment

: Gas mask. Protective goggles. Gloves. Protective clothing.



Materials for Protective Clothing

: Chemically resistant materials and fabrics.

Hand Protection

: Wear working gloves when handling gas containers.

Eye Protection

: Safety glasses.

Skin and Body Protection

: Wear suitable protective clothing.

Respiratory Protection

: Use a NIOSH-approved self-contained breathing apparatus in oxygen deficient atmospheres.

Thermal Hazard Protection

: Wear cold insulating gloves.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	: Gas
Appearance	: Clear, colorless gas
Odor	: Odorless
Odor Threshold	: No data available
pH	: No data available
Evaporation Rate	: No data available
Melting/Freezing Point	: - 151.67 °C (305 °F)
Boiling Point	: - 46.67 °C (52 °F)
Flash Point	: No data available
Auto-ignition Temperature	: 467.22 °C (873 °F)
Decomposition Temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor Pressure	: 861.8 kPa (125 psi) @ 22.1 °C (70 °F)
Relative Vapor Density at 20 °C	: 1.52
Relative Density/Specific Gravity	: 0.5066 (water = 1)
Solubility	: No data available
Partition Coefficient: N-octanol/water	: No data available
Viscosity	: No data available
Lower Flammable Limit	: 2.15 %
Upper Flammable Limit	: 9.6 %

9.2. Other Information

Gas Group : Liquefied gas

SECTION 10: STABILITY AND REACTIVITY

- 10.1. Reactivity:** Contains gas under pressure; may explode if heated. Reacts with oxidants causing fire/explosion hazard.
- 10.2. Chemical Stability:** Stable under recommended handling and storage conditions (see section 7).
- 10.3. Possibility of Hazardous Reactions:** Hazardous polymerization will not occur.

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- 10.4. **Conditions to Avoid:** Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks.
- 10.5. **Incompatible Materials:** Heat. Strong oxidizers.
- 10.6. **Hazardous Decomposition Products:** Carbon oxides (CO, CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information On Toxicological Effects

Acute Toxicity: Not classified

Petroleum gases, liquefied (68476-85-7)	
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.

Symptoms/Injuries After Skin Contact: May cause frostbite.

Symptoms/Injuries After Eye Contact: Contact with the liquefied gas causes frostbite.

Symptoms/Injuries After Ingestion: Ingestion is an unlikely route of exposure for a gas.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General : Harmful to aquatic life.

12.2. **Persistence and Degradability** No additional information available

12.3. **Bioaccumulative Potential**

Enviro-Safe R-290 8 oz	
Log Pow	< 1
Petroleum gases, liquefied (68476-85-7)	
Log Pow	2.3

12.4. **Mobility in Soil** No additional information available

12.5. **Other Adverse Effects** No additional information available

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: Empty product containers may contain hazardous residue. Do not reuse empty containers without commercial cleaning or reconditioning.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED or Liquefied petroleum gas

Hazard Class : 2.1

Identification Number : UN1075

Label Codes : 2.1

DOT Special Provision : DOT-SP 11917



14.2. In Accordance with IMDG

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED

Hazard Class : 2

Identification Number : UN1075

Label Codes : 2.1

EmS-No. (Fire) : F-D

EmS-No. (Spillage) : S-U



14.3. In Accordance with IATA

Proper Shipping Name : PETROLEUM GASES, LIQUEFIED

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Identification Number : UN1075
Hazard Class : 2
Label Codes : 2.1
ERG Code (IATA) : 10L



SECTION 15: REGULATORY INFORMATION

15.1 US Federal Regulations

Enviro-Safe R-290 8 oz	
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Fire hazard Sudden release of pressure hazard
Petroleum gases, liquefied (68476-85-7)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2 US State Regulations

Petroleum gases, liquefied (68476-85-7)
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

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

Revision Date : 12/30/2014

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

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

SDS US (GHS HazCom)