# Enviro-Safe R290 Refrigerant Cylinder

## 1 PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** Enviro-Safe R290 Refrigerant Cylinder
**SDS Number:** 8010-8015
**Revision Date:** 10/9/2024
**Version:** 2.5
**Product Description:** Refrigerant

**Supplier Details:**
Enviro-Safe Refrigerants, Inc.
400 Hanna Dr.
Pekin, IL 61554

**Phone:** 309-346-1110
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## 2 HAZARDS IDENTIFICATION

### Classification of Substance

**GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):**

Physical, Flammable Gases, 1
Physical, Gases Under Pressure, Liquefied Gas

### GHS Label Elements, Including Precautionary Statements

**GHS Signal Word:** DANGER

**GHS Hazard Pictograms:**

**GHS Hazard Statements:**

H220 - Extremely flammable gas
H280 - Contains gas under pressure; may explode if heated

**GHS Precautionary Statements:**

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

### Hazards not Otherwise Classified (HNOC) or not Covered by GHS

## 3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients

| CAS# | % | Chemical Name |
|---|---|---|
| 68476-85-7 | 100% | Petroleum gases, liquefied |

## 4 FIRST AID MEASURES

**Inhalation:** If symptoms develop, move to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

**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.

**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.

**Ingestion:** Do not induce vomiting. Immediately call a POISON CENTER or doctor/physician.

**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.

**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 Ingestion:** Ingestion is an unlikely route of exposure for gas.

**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.

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

If exposed or concerned, get medical advice and attention.

## 5 FIRE FIGHTING MEASURES

**5.1. Extinguishing Media**

**Suitable Extinguishing Media:** Dry powder, alcohol-resistent foam, carbon dioxide ($CO_2$)

**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 Mearsure 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. In case of major fire and large quantities: evacuate area.

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

## 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 clean up crew with proper protection.

**Emergency Procedures:** Stop leak if safe to do so. Eliminate ignition sources. 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 Heading 8. Exposure controls and personal protection. For further information refer to section 13.

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## 7 HANDLING AND STORAGE

**Handling Precautions:**

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.

**Storage Requirements:**

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations. Cylinders should be stored upright with valve protection cap in place and firmly secured to prevent falling. Keep at temperatures below 52C/125F.

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

Incompatible Products: Heat sources. Oxidizers.

7.3. Specific End Use(s):

Refrigerant

## 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:**

Appropriate Engineering Controls: Alarm detectors should be used when toxic 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:**

HMIS PP, H | Splash Goggles, Gloves, Apron, Vapor Respirator
HMIS PP, O | Face Shield & Eye Protection
HMIS PP, K | Full Face Respirator, Gloves, Full Suit, Boots
Propane cas#:(74-98-6) [100%]

Personal Protective Equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested:Vitoject (KCL 890 / Aldrich Z677698, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 60 min Material tested:Camatril (KCL 730 / Aldrich Z677442, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Petroleum gases, liquefied (68476-85-7)

| | | |
|---|---|---|
| USA ACGIH | ACGIHTWA (ppm): | 1000ppm |
| USA NIOSH | NIOSH REL (TWA) (mg/m3): | 1800mg/m3 |
| USA NIOSH | NIOSH REL (TWA) (ppm): | 1000ppm |
| USA IDLH | US IDLH (ppm): | 2100ppm (10%LEL) |
| USA OSHA | OSHA PEL (TWA) (mg/m3): | 1800mg/m3 |
| USA OSHA | OSHA PEL (TWA) (ppm): | 1000ppm |

# Enviro-Safe R290 Refrigerant Cylinder

## 9 PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|---|---|---|---|
| **Appearance:** | Clear, colorless gas | | |
| **Physical State:** | Gas | **Odor:** | Odorless |
| **Odor Threshold:** | No data available | **Solubility:** | No data available |
| **Specific Gravity or Density:** | 0.5066 (water=1) | **Freezing or Melting Point:** | - 151.67 °C (305 °F) |
| **Viscosity:** | No data available | **Flash Point:** | No data available |
| **Boiling Point:** | - 46.67 °C (52 °F) | **Vapor Density:** | 1.52 |
| **Partition Coefficient:** | No data available | **Autoignition Temperature:** | 467.22 °C (873 °F) |
| **Vapor Pressure:** | 861.8 kPa (125 psi) @22.1 °C (70 °F) | **UFL / LFL:** | 9.6 % / 2.15 % |
| **Potentia Hydrogenii:** | No data available | | |

**Other Information**
**Gas Group:** Liquefied gas

| | |
|---|---|
| **Evaporation Rate:** | No data available |
| **Decompression Temperature:** | No data available |

## 10 STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity:** | Contains gas under pressure; may explode if heated. Reacts with oxidants causing fire/explosion hazard. |
| **Chemical Stability:** | Stable under recommended handling and storage conditions (see section 7). |
| **Conditions to AvoIdentification:** | Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks. |
| **Materials to AvoIdentification:** | Heat. Strong oxidizers |
| **Hazardous Decomposition:** | Carbon oxides (CO, CO2) |
| **Hazardous Polymerization:** | Hazardous polymerization will not occur. |

## 11 TOXICOLOGICAL INFORMATION

Petroleum gases, liquefied cas#:(74-98-6) [100%]
LC50 Inhalation Rat: 658mg/l/4h

**Information on Toxicological Effects**
**Acute Toxicity:** No data available
**Skin Corrosion/Irritation:** No data available
**Respiratory or Skin Sensitization:** No data available
**Germ Cell Mutagenicity:** No data available
**Inhalation:** Asphyxiant gas
**Dermal:** May cause frost bite
**Serious Eye Damage/Eye Irritation:** May cause frost bite
**Ingestion:** Unlikely route of exposure for a gas

**Carcinogenicity:** Not classified
**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
**ACGIH:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
**NTP:** No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
**Reproductive toxicity:** No data available
**Specific target organ toxicity - single exposure:** No data available
**Specific target organ toxicity - repeated exposure:** No data available
**Aspiration Hazard:** Not classified

## 12 ECOLOGICAL INFORMATION

Petroleum gases, liquefied cas#:(68476-85-7) [100%]

**Information on Ecological Effects**
**Toxicity:** No data available
**Persistence and Degradability:** No data available
**Bioaccumulative Potential:** No data available
Enviro-Safe R2-90 30lb & 50lb Cylinder
Log Pow: < 1
Petroleum gases, liquefied (68476-85-7)
Log Pow: 2.3
**Mobility in Soil:** No data available
Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
**Other Adverse Effects:** No data available

## 13 DISPOSAL CONSIDERATIONS

Petroleum gases, liquefied cas#:(68476-85-7) [100%]

**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.

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

## 15 REGULATORY INFORMATION

**[%] RQ (CAS#) Substance - Reg Codes**
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**[100%] Petroleum gases, liquefied (68476-85-7) MASS, OSHAWAC, PA, TSCA, TSCAACTV, TXAIR**
This product does not contain chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm.

**Regulatory Code Legend**
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**MASS = MA Massachusetts Hazardous Substances List**
**OSHAWAC = OSHA Workplace Air Contaminants**
**PA = PA Right-To-Know List of Hazardous Substances**
**TSCA = Toxic Substances Control Act**
**TSCAACTV = TSCA Active Chemicals**
**TXAIR = TX Air Contaminants with Health Effects Screening Level**

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## 16 OTHER INFORMATION

**Disclaimer:** Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

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