



# PROFESSIONAL R-290

## Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations  
Revision Date: 03/06/2019 Date of issue: 12/30/2014

Version: 2.0

### SECTION 1: IDENTIFICATION

#### 1.1. Product Identifier

Product Name: Professional R-290

#### 1.2. Intended Use of the Product Refrigerant

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

##### Company

Vapco Products  
401 Marshall Road  
Valley Park, Mo 63088  
636-923-2121

#### 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.

# Professional R-290 8 oz

## Safety Data Sheet

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

**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 (CO<sub>2</sub>).

**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.

# Professional R-290 8 oz

Safety Data Sheet

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

## 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 <sup>3</sup> )	1800 mg/m <sup>3</sup>
USA NIOSH	NIOSH REL (TWA) (ppm)	1000 ppm
USA IDLH	US IDLH (ppm)	2100 ppm (10% LEL)
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	1800 mg/m <sup>3</sup>
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.

# Professional R-290 8 oz

Safety Data Sheet

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

- 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, CO<sub>2</sub>).

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information On Toxicological Effects

**Acute Toxicity:** Not classified

<b>Petroleum gases, liquefied (68476-85-7)</b>	
<b>LC50 Inhalation Rat</b>	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**

<b>Enviro-Safe R-290 8 oz</b>	
<b>Log Pow</b>	< 1
<b>Petroleum gases, liquefied (68476-85-7)</b>	
<b>Log Pow</b>	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** : Consumer Commodity, ORM-D, DOT-SP11917



### 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

# Professional R-290 8 oz

Safety Data Sheet

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

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



## SECTION 15: REGULATORY INFORMATION

### 15.1 US Federal Regulations

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

### 15.2 US State Regulations

<b>Petroleum gases, liquefied (68476-85-7)</b>
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)