

ACE R-290

1

PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ACE R-290
SOS Number:
Revision Date: 1/6/2020
Version: 2.0
Product Description: Refrigerant
Supplier Details: Atlantic Chemicals Inc.
 3471 Atlanta Ind Pkwy
 Atlanta, GA 30331 USA

Contact:
Phone: 404-505-6626
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Emergency: CHEMTREC 1-800-424-9300

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
 OSHA-H01 - MAY DISPLACE OXYGEN AND CAUSE RAPID SUFFOCATION.

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.
 P410 + P403 - Protect from sunlight. Store in a well-ventilated place.
 CGA-MP01 - IF ACCIDENTLY INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical advice/attention.

3

COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Ingredients:		
CAS#	%	Chemical Name:
74-98-6	100%	Propane

ACE R-290

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, foam, carbon dioxide.

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: Highly flammable liquid and vapor. Vapors may travel to source of ignition and flash back.

Explosion Hazard: May form flammable/explosive vapor-air mixture.

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

5.3. Advice for Firefighters

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

Firefighting Instructions: 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.

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: Avoid all contact with skin, eyes, or clothing. Avoid breathing (vapor, mist, spray). Use special care to avoid static electric charges. Keep away from heat, sparks, open flames, hot surfaces. No smoking.

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 clean up crew with proper protection.

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

6.2. Environmental Precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clear up spills immediately and dispose of waste safely. Spills should be contained with mechanical barriers. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

ACE R-290

6.4. Reference to Other Sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

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. 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, 0 | 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.

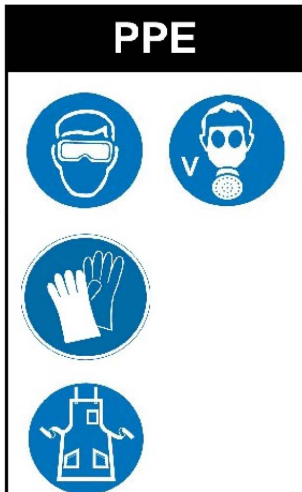
Full Contact: Material: Fluorinated rubber Minimum layer thickness: 0.7 mm Break through time: 480 min Material tested: Vitoject (KCL 890 / Aldrich 2677698, Size **M**)

Splash Contact: Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 60 min Material tested: Camatril (KCL 730 / Aldrich 2677442, 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 anti-static 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.



ACE R-290

Propane cas#:(74-98-6) [100%]

Components with workplace control parameters

TWA 1,000 ppm USA. ACGIH Threshold Limit Values (TLV)

Central Nervous System impairment Cardiac sensitization

TWA 1,000 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
1,800 mg/m3

The value in mg/m3 is approximate.

TWA 1,000 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
1,800 mg/m3

TWA 1,000 ppm USA. NIOSH Recommended Exposure Limits
1,800 mg/m3

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear, colorless gas	Odor:	Odorless
Physical State:	Gas	Solubility:	N/A
Odor Threshold:	N/A	Freezing or Melting Point:	- 151.67 °C (305 °F)
Specific Gravity or Density:	0.5066 (water=1)	Flash Point:	N/A
Viscosity:	N/A	Vapor Density:	1.52
Boiling Point:	- 46.67 °C (52 °F)	Autoignition Temperature:	467.22 °C (873 °F)
Partition Coefficient:	N/A	Upper Flammability Limit and Lower Flammability Limit:	9.6 % / 2.15 %
Vapor Pressure:	861.8 kPa (125 psi) @22.1 °C (70 °F)		
Potentia Hydrogenii:	N/A		
Evaporation Rate:	N/A		
Decompression Temperature:	N/A		

Other Information
Gas Group: Liquefied gas

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 Avoid:	Direct sunlight. Extremely high or low temperatures. Open flame. Heat. Sparks.
Materials to Avoid:	Heat. Strong oxidizers
Hazardous Decomposition:	Carbon oxides (CO, CO2)
Hazardous Polymerization:	Hazardous polymerization will not occur.

11 TOXICOLOGICAL INFORMATION

Propane cas#:(74-98-6) [100%]

ACE R-290

Information on Toxicological Effects

Acute Toxicity: No data available

Inhalation: No data available

Dermal: No data available

Skin Corrosion/Irritation: No data available

Serious Eye Damage/Eye Irritation: No data available

Respiratory or Skin Sensitisation: No data available

Germ Cell Mutagenicity: No data available

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

Additional Information:

RTECS:TX2275000

Dizziness, Drowsiness, Unconsciousness

12

ECOLOGICAL INFORMATION

Propane cas#:(74-98-6) [100%]

Information on Ecological Effects

Toxicity: No data available

Persistence and Degradability: No data available

Bioaccumulative Potential: No data available

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

Propane cas#:(74-98-6) [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.

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated Packaging: Dispose of as unused product.

14

TRANSPORT INFORMATION

14.1. In Accordance with DOT

Proper Shipping name: 1D8000, Consumer commodity, 9

DOT Special Provision: DOT-SP 11917 or DOT-SP-15593

14.2. In Accordance with IMDG

Proper Shipping Name: PETROLEUM GASES, LIQUEFIED



ACE R-290

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

[100%] Propane (74-98-6) MASS, NJHS, OSHAWAC, PA, TSCA, 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

- MASS= MA Massachusetts Hazardous Substances List
- NJHS= NJ Right-to-Know Hazardous Substances
- OSHAWAC= OSHA Workplace Air Contaminants
- PA= PA Right-To-Know List of Hazardous Substances
- TSCA= Toxic Substances Control Act
- TXAIR= TX Air Contaminants with Health Effects Screening Level

16 OTHER INFORMATION

Revision Date: 01/06/2020

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