

# MATERIAL SAFETY DATA SHEET

## R290 Refrigerant Cylinders & Cans

### SECTION 1 – IDENTIFICATION

**Company:** FrostyCool Refrigerants Inc  
136 Wings Road, Unit 4  
Woodbridge Ontario  
L4L 6C3 Canada

**Product Name:** R290 Refrigerant  
**Proper Shipping Name:** Petroleum Gases Liquefied  
**UN Number:** UN1075  
**Dangerous Goods Hazard Class / Division:** 2.1

**CHEMTREC – TOLL FREE 24 HOUR EMERGENCY TELEPHONE NUMBER**  
**North America 1-800-424-9300 / International 0 703 527 3887 Call Collect**

### SECTION 2 – PHYSICAL DESCRIPTION AND/OR PROPERTIES

**Appearance/Odor:** Clear, Colorless; odor added  
**Odor Threshold:** None available  
**Coeff. Water/Oil Dist.:** <1  
**Freezing Point:** -305°F  
**Vapor Density: (est.)** 1.52  
**Vapor Pressure: (PSIG)** 70 @ 110°F

**Physical State:** Gas  
**Specific Gravity:** 0.5066  
**Evaporation Rate:** Rapid  
**Boiling Point:** -44.5°F  
**pH:** N/A

### SECTION 3 – FIRE OR EXPLOSION HAZARD

**Auto Ignition Temperature:** 875°F

**Flashpoint:** Not Available      **Lower Flammable Limit (LEL):** 2.15%      **Upper Flammable Limit (UEL):** 9.60%

**Extinguish Media:** If possible, stop flow of gas. Use water to cool fire-exposed tanks, surroundings and to protect personnel. Water spray, dry powder, or carbon dioxide can be directed at flame area to reduce fire intensity. Do not extinguish flames unless leak can be stopped.

**Hazardous Combustion Products:** Normal combustion forms carbon monoxide.

**Sensitivity to Static Discharge:** Vapor may ignite if exposed to static discharge.

**Explosion Data:** Sensitivity to impact. Mixture is not sensitive.

**Fire and Explosion Hazard:** Flammable vapor may form if allowed to mix with air. Accumulation of gas is an ignition hazard. Vapors are heavier than air and may travel to an ignition source.

### SECTION 4 – INGREDIENTS

Hazardous Ingredients	%	Cas Number	LD50	P.E.L.	ACGIH TLV UNITS
Alkanes	100		n.ap.	800 ppm	800 ppm

Duracool 22a™ Refrigerant contains a trade secret odor of < 5% unless otherwise noted.

### SECTION 5 – REACTIVITY DATA

**Chemical Stability:** This material is chemically stable.

**Conditions To Avoid:** .Avoid sparks, open flame or any source of ignition.

**Incompatible Materials:** Avoid contact with strong oxidizing agents such as chlorine, permanganates and dichromate's.

**Decomposition Products:** This product may produce carbon monoxide with a deficiency of oxygen.

**Hazardous Polymerization:** will not occur.

**Polymerization To Avoid:** Keep separate from oxidizing agents.

## SECTION 6 – HEALTH HAZARD

As with most flammable products, hydrocarbon refrigerants demand basic common sense during use.

**Inhaled/Asphyxiant:** This product may cause irritation of the respiratory tract. May also cause headaches or dizziness at moderate exposures. Heavy exposure may cause anemia and irregular heart rhythm, respiratory arrest and death at elevated exposures.

**Ingestion:** Not likely to occur.

**Eye Contact:** Irritating if the liquid gets into eyes, with a possible hazard from freezing due to rapid evaporation. Extremely high vapor concentration may also be irritating.

**Skin Contact:** Exposure to rapidly expanding gas or vaporizing liquid may cause frost damage to tissue. Prolonged contact may irritate the skin and cause dermatitis.

**Chronic:** Prolonged exposure to this product may cause central nervous system disorder and or damage.

## SECTION 7 - FIRST AID

**Inhaled:** In emergency situations, use proper respiratory protection and immediately remove the victim to fresh air. Administer artificial respiration if breathing has stopped. Seek medical attention promptly in serious cases of over exposure.

**Eyes:** Flush eyes with tepid water for 15 minutes. Seek immediate medical advice immediately.

**Skin:** Avoid skin contact with the liquid. Remove contaminated clothing and wash the exposed area with soap and water.

**Frostbite:** Obtain medical assistance. If medical assistance is not available immediately, place person in a warm area as soon as possible and allow the injured area to warm gradually. DO NOT WARM EXPOSED AREA TO EXCESS HEAT OR COLD.

**Ingestion:** Unlikely to be a problem, this should not occur.

## SECTION 8 - SAFE HANDLING

**Spills:** Shut off ignition source and source of leak. Evacuate all non-essential personnel from the area. If possible, ventilate the area. Use water spray to disperse vapors. Isolate and ventilate area until gas has dispersed. If the incident is significant seek assistance from local fire, police and other relevant authorities.

**Waste Disposal Method:** Dispose of product in accordance with local, county state, and federal regulations.

**Storage, Handling, Shipping:** Store in a cool, well-ventilated area. Store away from strong oxidizing agents, chlorine dioxide, excessive heat and/or static discharge. Cylinders must be stored and transported in an upright position.

**Other Precautions:** Empty containers may contain flammable or combustible vapors. Do not reuse.

## SECTION 9 -PERSONAL PROTECTION

**Engineering Controls:** Use only in a well ventilated area! Ensure there is good ventilation. If additional ventilation is needed use auxiliary ventilation equipment ensuring that all systems are well grounded and spark proof.

**Eyes:** Wear safety chemical safety glasses with side shields and/or goggles.

**Gloves:** Use thermal, chemical resistant gloves when handling this product.

**Other protective clothing:** Long sleeves, pants and close-toed shoes.

**Respiratory Protection:** If ventilation of the area is not adequate use a NIOSH approved respirator to prevent overexposure by inhalation.

## SECTION 10 –PREPARATION

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