

# MATERIAL SAFETY DATA SHEET

## Duracool 12a<sup>®</sup> Refrigerant Cans Chill-Fx<sup>™</sup> Refrigerant Cans

### SECTION 1 – IDENTIFICATION

**Company:** Duracool Refrigerants Inc.  
10260 - 21 Street NW  
Edmonton, Alberta  
T6P 1W4 Canada (780) 449-4777

Proper Shipping Name: Consumer Commodity, ORM-D  
Product Name: Duracool 12a<sup>®</sup> Refrigerant  
Chill-Fx<sup>™</sup> Refrigerant

**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 Color; Odour /Stenched  
Odor Threshold: 4900 ppm  
Coeff. Water/Oil Dist.: <1  
Freezing Point: -174° F -281° F  
Vapor Density: (est.) 1.72 pH: N/A

Physical State: Gas/Liquid  
Specific Gravity: 0.552  
Evaporation Rate: Rapid / Fast  
Boiling Point: -31.5°F -24.7 °F  
Vapor Pressure: (PSIG) 70 @ 70°F

### SECTION 3 – FIRE OR EXPLOSION HAZARD

Auto Ignition Temperature: 891°C 1635°F  
Flashpoint: Not Available Lower Flammable Limit (LEL): 1.95% Upper Flammable Limit (UEL): 9.1%

**Fire Extinguishing Media:** If possible, stop flow of gas. Use water spray to cool fire-exposed tanks / cylinders and 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:** Vapour may ignite if exposed to static discharge.

**Explosion Data / Mechanical Impact:** Sensitivity to impact. Mixture is not sensitive. Protect cylinders from Impact

**Fire and Explosion Hazard:** Flammable vapours 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. Flashback along a vapour trail may occur.

### SECTION 4 – INGREDIENTS

Hazardous Ingredients	%	Cas Number	LD50	P.E.L.	ACGIH TLV UNITS
Alkanes	0-70 -		n.ap.	800 PPM	800 PPM
Naphthalene	0-30	91-20-3			
Proprietary Ingredients	< 1%				
Non Hazardous Ingredients	< 2%				

Duracool 12a<sup>®</sup> Refrigerant & Chill-Fx<sup>™</sup> Refrigerant contains an odour of 1% -3% total volume (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

### Cautions

As with most flammable products, hydrocarbon refrigerants demand basic common sense during use. Use only in well ventilated areas.

**Inhaled/Asphyxiate:** This product may cause irritation of the respiratory tract. The product may cause headaches or dizziness at moderate exposures. Heavy exposure may cause anemia and irregular heart rhythm, respiratory arrest and death at elevated exposures. Avoid breathing vapors or mist.

**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. Exposure to rapidly expanding gas may cause frost damage to tissue and permanent eye damage.

**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.

NFPA Hazard Classification Health = 1, Flammability = 4, Reactivity = 0

## 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 OR SUBJECT 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 container.

As with most flammable products, hydrocarbon refrigerants demand basic common sense during use. Use only in well ventilated areas.

## 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

Duracool Refrigerants Inc. 10260 - 21 Street NW Edmonton, Alberta T6P 1W4 Canada Telephone (780) 449-4777 June 01, 2008

All information provided for this MSDS sheet is offered in good faith and is believed to be accurate to the best of the knowledge of the preparation analyst. The information contained in this document is based on documentation provided by the supplier/s and other documentation/information available at the date of preparation. Duracool Refrigerants Inc. does not guarantee the accuracy of this document and this information is offered without warranty, guarantee or liability on the part of the preparation analyst in good faith.

n.va. = not available n.ap. = not applicable est. = estimate v/v = volume/volume basis < = less than > = greater than