MATERIAL SAFETY DATA SHEET

IDENTIFICATION

Name:	REFRIGERANT (R414b)
Chemical Family:	Halogenated Hydrocarbons
Formula:	Mixture of CHClFCF3, CH3CClF2, CH(CH3)2-CH3, CHClF2
Synonyms:	N/A
Hazard Class:	2.2
Other Identifying Data:	This product is a direct replacement for CFC-12 & HFC-134a, without modification of the user's equipment.

CAS Name:	**CAS Registry No.**
Chlorodifluoromethane	000075-45-6
1-Chloro-1, 1-difluoroethane	000075-68-3
Isobutane	068476-85-7
2-Chloro-1,1,1,2-Tetrafluoroethane	002837-89-0

Manufacturer / Distributor:

U.S.	**CANADA**
ICOR International Inc	Environment Specialty Products
10640 East 59th Street, PO Box 36626	841 Brock Rd. South,
Indianapolis IN 46236	Pickering ON L1W 3J2
EMER:1-800-457-4280 CHEMTREC, 24 Hrs	1-613-996-6666 CANUTEC, chemical emer. only
INFO: 1-800-497-6805 (weekdays 7:30am-4:00pm)	1-800-495-4062 (weekdays 9:00am-5:00pm)

PHYSICAL DATA

Boiling Point:	-29.8°F		Pure or Mixture:	Mixture
Vapour Pressure:	NDA		Melting Point (F):	NDA
Evaporation Rate:	NDA	(Butyl Acetate =1)	pH:	NA
Vapour Density (Air =1)	>1		Ignition Temperature:	1170°F
Solubility in H_2O:	very slight		Physical State:	Gas
Specific Gravity:	1.1			

HAZARDOUS COMPONENTS:

Material(s):	Approximate weight %
Chlorodifluoromethane	50
1-Chloro-1, 1-difluoroethane	9.5
Isobutane	1.5
2-Chloro-1,1,1,2-Tetrafluoroethane	39

HAZARDOUS REACTIVITY: AVOID INTENSE HEAT AND OPEN FLAME

Stability: Material is normally stable. However, avoid open flames and high temperatures.
Incompatibility (materials to avoid): Strong oxidants, including oxygen, freshly scraped aluminium, alkali metals, and alkali earth metals (sodium, magnesium, etc.) may cause exothermic reaction. The aluminum in refrigeration systems contains an oxide/chloride coating to prevent reaction with metal.
Hazardous decomposition products:
Hydrofluoric and hydrochloric acids, chlorine, fluorine, possibly phosgene, carbon dioxide, and carbon monoxide.
Polymerization: Will not occur.
Other Reactivity Data: Cylinders of used product may contain oil as well as refrigerant. A liquid leak or venting during a fire will produce a cloud of oil mist that is very flammable.

FIRE AND EXPLOSION DATA:

Flash point:	NA
Flammability Classification:	will not burn
Health Hazard Code:	Nonhazardous
Flammable Limits in Air	LEL: NA % UEL: NA %
Extinguishing Media:	Stop Flow of Gas, Use Class A Ext. Agent, Use Class B Ext. Agent, Water may be used to blanket fire. **EXPLODES ON HEATING**
Unusual Fire/Explosion Hazards:	Cylinders may vent or rupture in fire conditions, leading to decomposition. Vapours may decompose if exposed to direct flame conditions. The vapour may displace oxygen making breathing difficult and causing light-headedness or suffocation.
Special Fire Fighting Procedures:	The material is not flammable and does not support combustion. The choice of fire extinguishing media depends on the surrounding materials involved in the fire. Use self-contained breathing apparatus and full protective gear. Use water spray to cool fire-exposed containers.

HEALTH HAZARD INFORMATION:

Immediate: The greatest hazard is contact with escaping gas which can cause frostbite and damage to exposed tissue. The escaping gas may displace oxygen and cause light-headedness. eye irritation and suffocation.
Long Term: Exposure to high concentrations may lead to cardiac irregularities, unconsciousness or death.
Other Hazards: None listed

FIRST AID

Inhalation: Remove to fresh air, call a physician. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do not give epinephrine or similar drugs.
Note to physicians: Because of possible increased risk or eliciting cardiac dysrythmias, catecholamine drugs, such as epinephrine, should be considered only as a last resort in life threatening emergencies.
Eyes: Flush immediately with water for at least 15 minutes. Call a physician.
Skin: Warm the area gradually by flushing with plenty of water. Call a physician
Swallowed: DO NOT INDUCE VOMITTING, Call a physician
Medical Conditions Aggravated by Exposure: Persons subject to cardiac problems may be at increased risk by exposure.

PRECAUTIONS / PROCEDURES:

Spill or leak: Remove or extinguish ignition or combustion sources. Evacuate enclosed spaces until gas is dispersed. Keep upwind. Stop the release of gas, if possible without risk. Disperse the gas with floor level forced-air ventilation. Exhaust vapours outdoors. Contain the spill by building a dike using absorbent material. Collect the remainder of the spill with absorbent material and place into a drum for waster disposal or recovery. Wash contaminated clothing before reuse.
Work/Hygiene Practices: Use insulated or lined butyl gloves, face shield or goggles, and impervious clothing.
Special Measures: Good general ventilation is usually adequate, but local ventilation may be needed if gas is vented to atmosphere. Use self-contained breathing apparatus if local ventilation is not adequate.

SHIPPING INFORMATION:

DOT	Propershippingname:LIQUEFIEDGAS,N.O.S. HazardClass:2.2 DOTIdentification:UN3163 Do not heat above 120°F
Other information:	Date revised: 09/05/2015