

SAFETY DATA SHEET
 Deepfreeze Refrigerants Inc.
 2695 Slough Street
 Mississauga Ontario Canada

215-010

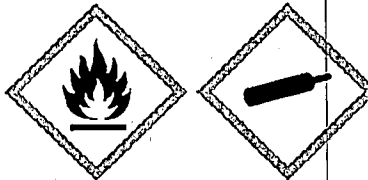
UC-212

Duracool 12a 134a Replacement Refrigerant

SECTION 01: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Identity..... Duracool 12a 134a Replacement Refrigerant - 170 g (6 oz.)
 Manufacturer..... Deepfreeze Refrigerants Inc.
 2695 Slough Street
 Mississauga
 L4T 1G2
 905 671 4222
 24 hour emergency telephone number..... In Canada & The United States: Call CHEMTREC (800) 424-9300.
 Recommended Use..... Environmental friendly refrigerant.
 Chemical Family..... Hydrocarbon blend.

SECTION 02: HAZARDS IDENTIFICATION



Label Elements:
 Signal Word..... DANGER.
 Hazard Classification:
 Physical Hazards..... Flammable Aerosols - Category 1. Gases Under Pressure - Liquefied Gas .
 Health Hazards..... Not Classified.
 Environmental Hazards..... Not Classified.
 Hazard Statement..... Extremely flammable aerosol. Pressurized container: may burst if heated. Contains gas under pressure; may explode if heated.
 Precautionary Statements:
 Prevention..... Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.
 Response..... None.
 Storage..... Protect from sunlight. Do not expose to temperatures exceeding 50°C /122°F. Store in a well ventilated place.
 Disposal..... Dispose of contents/ container in accordance with local/regional/national/international regulations.
 Hazard(s) not otherwise classified (HNOC) Avoid inhalation of the product. Use only as directed.

SECTION 03: COMPOSITION/INFORMATION ON INGREDIENTS

| HAZARDOUS INGREDIENTS | CAS # | WT. % |
|-----------------------|---------|-------|
| Isobutane | 75-28-5 | 10-60 |
| Propane | 74-98-6 | 10-60 |

SECTION 04: FIRST AID MEASURES

Inhalation..... If inhaled, remove to fresh air. If not breathing, give artificial respiration and obtain immediate medical assistance.
 Skin Contact..... Remove contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Consult a poison control centre or physician immediately.
 Eye Contact..... Check for and remove contact lenses. Immediately flush eyes with water for a minimum of 15 minutes keeping eyelids open. Consult a doctor if any irritation occurs.
 Ingestion..... Ingestion is unlikely to occur. If swallowed do not induce vomiting because of risk of aspiration into the lungs. If aspiration is suspected obtain immediate medical attention.
 Most important symptoms/effects, acute .. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct and delayed contact with eyes may cause temporary irritation. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. May cause redness and pain.

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SECTION 04: FIRST AID MEASURES

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. In case of shortness of breath give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 05: FIRE FIGHTING MEASURES

General Fire Hazards..... Extremely flammable aerosol.
 Suitable Extinguishing Media..... Dry chemical powder. Carbon dioxide. Foam, water spray or fog.
 Unsuitable Extinguishing Media..... Do not use water jet as an extinguisher, as this will spread the fire.
 Specific Hazards Arising from the Chemical In case of fire, the following can be released: Carbon Oxides (CO, CO2), Other unidentified Organic Compounds.
 Special Protective Equipment and Firefighters must use standard protective equipment including flame retardant coat, helmet
 Precautions for Firefighters with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out.

SECTION 06: ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective No action shall be taken involving any personal risk or without suitable training. Evacuate
 Equipment and Emergency Procedures surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid walking through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 08).
 Methods and Materials for Containment .. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, and Cleaning Up earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see section 13). Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material.
 Environmental Precautions..... Keep out of drains, sewers, ditches, and waterways. Minimize use of water to prevent environmental contamination.

SECTION 07: HANDLING AND STORAGE

Precautions for Safe Handling..... Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Avoid breathing vapour of this product. Avoid contact with skin and eyes. Avoid prolonged exposure. Use in well-ventilated areas.
 Conditions for Safe Storage including any Incompatibilities Store locked up. Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C (122°F). Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store away from incompatible materials (see Section 10).

SECTION 08: EXPOSURE CONTROLS / PERSONAL PROTECTION

| INGREDIENTS | TWA | ACGIH TLV STEL | PEL | OSHA PEL STEL | REL NIOSH |
|---------------------------------------|---|-------------------|---------------|------------------|---------------|
| Isobutane | Not available | 1,000 ppm | Not available | Not available | Not available |
| Propane | Not available | Not available | 1,000 ppm | Not available | Not available |
| Appropriate Engineering Controls..... | Local exhaust ventilation required to maintain the point of use below the Threshold Limit Value if unprotected personnel are involved. | | | | |
| Individual Protection Measures: | | | | | |
| Eye/Face Protection..... | Chemical splash goggles are recommended. | | | | |
| Skin Protection..... | Chemical resistant gloves are recommended. Avoid contact with the skin. Wear appropriate chemical resistant clothing. | | | | |
| Respiratory Protection..... | Use approved NIOSH respirators for emergencies. | | | | |
| Thermal Hazards..... | None Known. | | | | |
| General Hygiene Considerations..... | When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment prior to use. | | | | |

SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Form..... Aerosol.
 Physical Appearance..... Clear/Transparent. Colorless.
 Odor..... Characteristic.
 Odor Threshold (ppm)..... N/A.

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SECTION 09: PHYSICAL AND CHEMICAL PROPERTIES

Aerosol Vapour Pressure (psig, 21°C) 80-95.
 Specific Gravity 0.500-0.610.
 Vapour Density (Air=1)..... > 1.
 pH..... N/A.
 Boiling Point (°C)..... -11.72. (Isobutane).
 Freezing Point (°C)..... Not available.
 Flash Point (°C), Method..... -82.8. (Isobutane).
 Flashback..... N/A.
 Evaporation Rate (n-Butyl Acetate = 1)..... No data.
 VOC Content..... > 95 wt.%.
 Solubility in water..... Not soluble in water.
 Auto Ignition Temperature (°C)..... 460°C (860°F). (Isobutane).
 Aerosol Flame Projection..... N/A.
 Lower Flammable Limit (% Vol)..... 1.8. (Isobutane).
 Upper Flammable Limit (% Vol)..... 8.8. (Isobutane).
 Coefficient of Water/Oil Distribution..... N/A.
 Viscosity..... N/A.

SECTION 10: STABILITY AND REACTIVITY

Reactivity Product not reactive under normal conditions of use.
 Chemical Stability..... Material is stable under normal conditions.
 Possibility of Hazardous Reactions..... Will not occur.
 Conditions to Avoid..... Avoid sources of heat and flame, and electrostatic charge.
 Incompatible Materials..... Keep away from heat. Strong oxidizing agents.
 Hazardous Decomposition Products..... See Section 05.

SECTION 11: TOXICOLOGICAL INFORMATION

| INGREDIENTS | LC50 | LD50 |
|--|--|---------------|
| Isobutane | 658 mg/L (Rat - 4hrs) | Not available |
| Propane | 658 mg/L (Rat - 4hrs) | Not available |
| Information on Likely Routes of Exposure: | | |
| Routes of entry - Inhalation..... | Prolonged inhalation may be harmful. | |
| Routes of entry - Skin & Eye..... | Contact with liquid may cause frostbite. | |
| Routes of entry - Ingestion..... | No. | |
| Routes of entry - Skin Absorption..... | No. | |
| Symptoms Related to the Physical, Chemical and Toxicological Characteristics | | |
| Acute Toxicity..... | Inhalation: Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolong inhalation may be harmful. | |
| Skin Corrosion/Irritation..... | N/A. | |
| Serious Eye Damage/Eye Irritation..... | N/A. | |
| Respiratory or Skin Sensitization..... | N/A. | |
| Germ Cell Mutagenicity..... | No data available to indicate product or any components present at greater than 0.1% are mutagenic. | |
| Carcinogenicity..... | None of the ingredients are listed as possibly carcinogenic to humans by IARC or ACGIH. | |
| Reproductive Toxicity..... | No information is available. | |
| STOT - Single Exposure..... | Not classified. | |
| STOT - Repeated Exposure..... | Not classified. | |
| Aspiration Hazard..... | Not classified. | |
| Chronic Effects..... | May cause damage to the Central Nervous System through prolonged or repeated exposure. Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness. | |

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity..... May be dangerous for the environment. No data is available on the product itself. Should not be released into the environment.
 Persistence and degradability The product itself has not been tested.
 Bioaccumulation Potential..... The product itself has not been tested.
 Mobility in Soil..... The product itself has not been tested.
 Other Adverse Effects..... None Known.

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SECTION 13: DISPOSAL CONSIDERATIONS

Appropriate Disposal Methods..... This material and its container must be disposed of as hazardous waste. Avoid release to the environment. Spilled material and water rinses are classified as chemical waste and must be disposed of in accordance with current local, provincial and federal regulations. Contents under pressure. Do not puncture, incinerate or expose to heat, even when empty.

SECTION 14: TRANSPORT INFORMATION

TDG (Canada- Road)..... UN1075, AEROSOLS, Class 2.1.
IMDG (International- Marine)..... UN1075, AEROSOLS, Class 2.1.
IATA (International- Air)..... UN1075, AEROSOLS, Class 2.1, LTD QTY.
DOT (US-Road)..... UN1075, AEROSOLS, Class 2.1, LTD QTY, Consumer Commodity ORM-D.

SECTION 15: REGULATORY INFORMATION

Canada Regulations: WHMIS Classification. A: Compressed gas. B5: Flammable aerosol.
Canadian Environmental Protection Act ... All ingredients listed appear on the Domestic Substances List (DSL).
(CEPA)
US Regulations
TSCA Inventory Status..... All components are listed on TSCA.
OSHA..... This product is considered hazardous under the Federal OSHA hazard communication standard.
California Proposition 65..... This product does not contain any chemical(s) known to the state of California to cause cancer or reproductivity toxicity.

SECTION 16: OTHER INFORMATION

Disclaimer..... The information contained herein is based on data considered accurate. No guarantee or warranty is expressed or implied regarding the accuracy of this data or the results obtained from the use thereof. The SDS provider assumes no responsibility for personal injury or property damage to vendors or users or third parties, caused by the material. Such vendors or users assume all risks with the use of the material. This product has been classified in accordance with the hazard criteria of the CPR and the SDS contains all the information required by the CPR.

Abbreviations..... ACGIH: American Conference of Governmental Industrial Hygienists; CAS: Chemical Abstract Service; NIOSH: National Institute for Occupational Safety and Health, OSHA: Occupational Safety and Health Administration- USA; TSCA: Toxic Substances Control Act 1976-USA; PEL: Permissible Exposure Limit; REL: Recommended Exposure Limit; TLV: Threshold Limit Value; VOC: Volatile Organic Content; WHMIS: Workplace Hazardous Materials Information System STOT: Specific Target Organ Toxicity.

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