

Revision Date 08/14/2013
Revision 15
Supersedes Date 08/08/2013



SAFETY DATA SHEET

FRZ - GENERAL PURPOSE CIRCUIT CHILLER AEROSOL

1. IDENTIFICATION

Product Name	FRZ - GENERAL PURPOSE CIRCUIT CHILLER AEROSOL
Product No.	MCC-FRZ
Synonyms, Trade Names	Also known as: "Micro Freeze Circuit Cooler"
Identification No.	UN1950
Supplier	MicroCare Corporation 595 John Downey Drive New Britain, CT 06019 United States of America Toll Free: 1-800-638-0125 Tel: 1-860-827-0626 Web: www.MicroCare.com email: techsupport@microcare.com
Emergency Telephone	CHEMTREC (800) 424-9300

2. HAZARD(S) IDENTIFICATION

EMERGENCY OVERVIEW

Colourless liquid. Slight odor. Ether. This product is not flammable. Liquid may irritate the skin. Spray and vapor in the eyes may cause irritation and smarting. No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation. Keep out of the reach of children.

Appearance Liquid Gas Aerosol.

Color Colourless.

Odor Slight odor. Ether

GHS Pictogram

No pictogram required.

GHS Classification

Physical and Chemical Hazards	Not classified.
Human health	Not classified.
Environment	Not classified.

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM - WHMIS

WHMIS Label



Compressed Gas.

Controlled Product Classification

Canadian WHMIS Classification A WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (CPR SECTION (33)) This product has been classified according to the hazard criteria of the Controlled Product Regulations, and the MSDS contains all required information.

Human Health

Prolonged skin contact may cause redness, irritation and dry skin. Mild dermatitis, allergic skin rash.

Inhalation

Vapors irritate the respiratory system, and may cause coughing and difficulties in breathing.

Ingestion

May cause stomach pain or vomiting. May cause nausea, headache, dizziness and intoxication.

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Skin Contact

Acts as a defatting agent on skin. May cause cracking of skin, and eczema. Contact with liquid form may cause frostbite.

Eye Contact

May cause temporary eye irritation.

Other Health Effects

This substance has no evidence of carcinogenic properties.

Physical And Chemical Hazards

Aerosol containers can explode when heated, due to excessive pressure build-up. Vapors are heavier than air and may travel along the floor and in the bottom of containers. Gas or vapor displaces oxygen available for breathing (asphyxiant). Considering the limited amount applied during use and the size of the container, the risk of adverse effects is considered small.

3. COMPOSITION/INFORMATION ON INGREDIENTS

HFC-134a Tetrafluoroethane	100%
CAS No.: 811-97-2	EC No.: 212-377-0
GHS Classification Not classified.	

4. FIRST-AID MEASURES

Description of first aid measures

General Information

Contact with liquid form may cause frostbite. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Place unconscious person on the side in the recovery position and ensure breathing can take place. Perform artificial respiration if breathing has stopped. Keep out of the reach of children.

Inhalation

Move into fresh air and keep at rest. If respiratory problems, artificial respiration/oxygen.

Ingestion

DO NOT INDUCE VOMITING! Immediately rinse mouth and drink plenty of water (200-300 ml). Consult a physician for specific advice.

Skin Contact

Contact with liquid form may cause frostbite. Remove contaminated clothes and rinse skin thoroughly with water.

Eye Contact

Promptly wash eyes with plenty of water while lifting the eye lids. Make sure to remove any contact lenses from the eyes before rinsing. Consult a physician for specific advice.

Most important symptoms and effects, both acute and delayed

General Information

Contact with liquid form may cause frostbite. The severity of the symptoms described will vary dependant of the concentration and the length of exposure.

Inhalation

Vapors may cause headache, fatigue, dizziness and nausea.

Ingestion

Due to the physical nature of this material it is unlikely that swallowing will occur. Drowsiness, dizziness, disorientation, vertigo.

Skin Contact

Contact with liquefied gas might cause frostbites, in some cases with tissue damage.

Eye Contact

Visual disturbances including blurred vision

Indication of any immediate medical attention and special treatment needed

Notes To The Physician

No recommendation given, but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical. If in doubt, GET MEDICAL ATTENTION PROMPTLY!

5. FIRE-FIGHTING MEASURES

Flammability Limit - Lower(%) n/a

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Flammability Limit - Upper(%) n/a

Extinguishing Media

This product is not flammable. Use fire-extinguishing media appropriate for surrounding materials.

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Unusual Fire & Explosion Hazards

Aerosol containers can explode when heated, due to excessive pressure build-up.

Specific Hazards

Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

Special Fire Fighting Procedures

Move container from fire area if it can be done without risk.

Protective Equipment For Fire-Fighters

Self contained breathing apparatus and full protective clothing must be worn in case of fire.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Warn everybody of potential hazards and evacuate if necessary. Ventilate well, avoid breathing vapors. Use approved respirator if air contamination is above accepted level.

Environmental Precautions

Contain spillages with sand, earth or any suitable adsorbent material. Avoid release to the environment.

Spill Clean Up Methods

Wear necessary protective equipment. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate.

7. HANDLING AND STORAGE

Handling

Provide good ventilation. Avoid inhalation of vapors/spray and contact with skin and eyes. Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed. Keep out of the reach of children.

Storage

Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient Comments

Threshold Limit Values (2005), ACGIH, by the American Conference on Governmental Industrial Hygienists.

Protective Equipment



Engineering Measures

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation.

Respiratory Equipment

Vapors are heavier than air and may travel along the floor and in the bottom of containers. At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. Self-contained breathing apparatus with full facepiece.

Hand Protection

For prolonged or repeated skin contact use suitable protective gloves.

Eye Protection

Wear approved, tight fitting safety glasses where splashing is probable.

Other Protection

Wear suitable protective clothing as protection against splashing or contamination.

Hygiene Measures

No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals. When using do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance	Liquid Gas Aerosol.
Color	Colourless.
Odor	Slight odor. Ether
Solubility	Slightly soluble in water.
Vapor density (air=1)	3.6 @ 25 C / 77 F
Vapor pressure	96 PSIA 25 C / 77 F
Flammability Limit - Lower(%)	n/a
Flammability Limit - Upper(%)	n/a
Other Flammability	
This product is not flammable.	
Physical Data Comments	Aerosol.
Volatility Description	Highly volatile.
Volatile By Vol. (%)	100
Flammability	This product is not flammable.

10. STABILITY AND REACTIVITY

Reactivity

No specific reactivity hazards associated with this product.

Stability

Stable under normal temperature conditions and recommended use.

Hazardous Polymerisation

Will not polymerise.

Conditions To Avoid

Avoid exposing aerosol containers to high temperatures or direct sunlight. Avoid contact with naked flames and hot surfaces as corrosive and toxic decomposition products can be formed.

Materials To Avoid

Alkali metals. Alkali earth metals. Powdered metal.

Hazardous Decomposition Products

When heated, toxic and corrosive vapors/gases may be formed. Halogenated hydrocarbons. Hydrogen fluoride (HF). Carbon monoxide (CO). Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION

Other Health Effects

This substance has no evidence of carcinogenic properties.

Toxicological Information on Ingredients:

HFC-134a Tetrafluoroethane (CAS: 811-97-2)

Toxic Dose 1 - LD 50

>2085 mg/kg (oral rat)

Other Health Effects

This substance has no evidence of carcinogenic properties.

12. ECOLOGICAL INFORMATION

Ecotoxicity

There are no data on the ecotoxicity of this product.

Acute Fish Toxicity

Not considered toxic to fish.

Degradability

There are no data on the degradability of this product.

Bioaccumulative potential

No data available on bioaccumulation.

Mobility:

Not relevant, due to the form of the product.

Results of PBT and vPvB assessment

This product does not contain any PBT or vPvB Substances.

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Other adverse effects

The product contains substances which contribute to global warming (greenhouse effect).

Ecological Information on Ingredients:

HFC-134a Tetrafluoroethane (CAS: 811-97-2)

LC 50, 96 Hrs, Fish mg/l

450

EC 50, 48 Hrs, Daphnia, mg/l

980

13. DISPOSAL CONSIDERATIONS

Waste Management

Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority.

Disposal Methods

Dispose of waste and residues in accordance with local authority requirements.

14. TRANSPORT INFORMATION

UN No. (DOT/TDG)	UN1950
UN No. (ICAO)	UN1078 (ref.: US DOT-SP 10232)
DOT Proper Shipping Name	Aerosol, NonFlammable
DOT Proper Shipping Name	Consumer Commodity ORM-D (USA)
TDG Proper Shipping Name	Consumer Commodity ORM-D (USA)

DOT Hazard Class

2.2

DOT Hazard Label

Non Flammable Gas

Transport Labels



DOT Pack Group	N/A
Air Pack Group	Not Applicable
Environmentally Hazardous Substance/Marine Pollutant	No.

Markings

ORM-D

Packaging Instructions	200
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Transport in Bulk according to Annex II of MARPOL 73/78 and the IBC Code Notes

Not applicable.

15. REGULATORY INFORMATION

Regulatory Status (US)

TSCA: The ingredients of this product are on the TSCA Inventory. SECTION 313: This product does not contain toxic chemical subject to the reporting requirements of Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 and 40 CFR Part 372.

Regulatory References

29 CFR 1910.1010 Federal Regulations (OSHA Standard).

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US Federal Regulations

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities

None of the ingredients are listed.

SARA (311/312) Hazard Categories

None.

OSHA Highly Hazardous Chemicals

None of the ingredients are listed.

US State Regulations

California Proposition 65 Carcinogens and Reproductive Toxins

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-I)

None of the ingredients are listed.

California Air Toxics "Hot Spots" (A-II)

None of the ingredients are listed.

Massachusetts "Right To Know" List

None of the ingredients are listed.

Rhode Island "Right To Know" List

None of the ingredients are listed.

Minnesota "Right To Know" List

All ingredients are listed.

New Jersey "Right To Know" List

None of the ingredients are listed.

Pennsylvania "Right To Know" List

None of the ingredients are listed.

International Inventories

Canada – DSL/NDSL

All ingredients are listed or exempt.

US - TSCA

All ingredients are listed or exempt.

US – TSCA 12(b) Export Notification

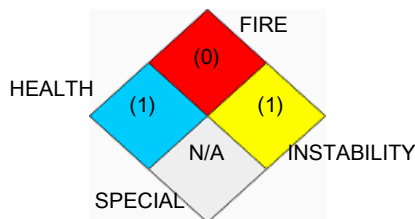
None of the ingredients are listed.

16. OTHER INFORMATION

HAZARDOUS MATERIAL INFORMATION SYSTEM (HMIS)

HEALTH	1
FLAMMABILITY	0
PHYSICAL	1
PERSONAL PROTECTION	A

NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)



Revision Comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision Date 08/14/2013

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Supersedes Date	08/08/2013
Sds No.	AEROSOL_FRZ
Material Safety Data Sheet Status	Approved.
Date	08 August 2013

Disclaimer

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.