# SAFETY DATA SHEET
## FRZA - ANTI-STATIC CIRCUIT CHILLER   AEROSOL

## 1. IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Name</th>
<th>FRZA - ANTI-STATIC CIRCUIT CHILLER   AEROSOL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product No.</td>
<td>MCC-FRZA</td>
</tr>
<tr>
<td>Synonyms, Trade Names</td>
<td>&quot;FRZA - Anti-Stat Micro Freeze&quot;</td>
</tr>
<tr>
<td>Identification No.</td>
<td>UN1950</td>
</tr>
<tr>
<td>Supplier</td>
<td>MicroCare Corporation</td>
</tr>
<tr>
<td></td>
<td>595 John Downey Drive</td>
</tr>
<tr>
<td></td>
<td>New Britain, CT  06019</td>
</tr>
<tr>
<td></td>
<td>United States of America</td>
</tr>
<tr>
<td></td>
<td>Toll Free: 1-800-638-0125</td>
</tr>
<tr>
<td></td>
<td>Tel:  1-860-827-0626</td>
</tr>
<tr>
<td></td>
<td>Web:  <a href="http://www.MicroCare.com">www.MicroCare.com</a></td>
</tr>
<tr>
<td></td>
<td>email: <a href="mailto:techsupport@microcare.com">techsupport@microcare.com</a></td>
</tr>
<tr>
<td>Emergency Telephone</td>
<td>CHEMTREC (800) 424-9300</td>
</tr>
</tbody>
</table>

## 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.

### Precautionary Statements
P102 Keep out of reach of children.

### 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.

### OSHA Regulatory Status

This Product is Hazardous under the OSHA Hazard Communication Standard.
FRZA - ANTI-STATIC CIRCUIT CHILLER AEROSOL

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

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

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>HFC-134a Tetrafluoroethane</td>
<td>90-100%</td>
</tr>
<tr>
<td>CAS No.: 811-97-2</td>
<td>EC No.: 212-377-0</td>
</tr>
<tr>
<td>GHS Classification</td>
<td>Not classified.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPAN-2-OL</td>
<td>1-5%</td>
</tr>
<tr>
<td>CAS No.: 67-63-0</td>
<td>EC No.: 200-861-7</td>
</tr>
<tr>
<td>GHS Classification</td>
<td>Flam. Liq. 2 - H225; Eye Irrit. 2 - H319; STOT SE 3 - H336</td>
</tr>
</tbody>
</table>

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.
FRZA - ANTI-STATIC CIRCUIT CHILLER    AEROSOL

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 |
| 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.

**Reference to other sections**
See section 11 for more detailed information on health effects and symptoms.

### 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.

**Specific end use(s)**
The identified uses for this product are detailed in Section 1.2.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>STD</th>
<th>TWA (8-hrs)</th>
<th>STEL (15 min)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPAN-2-OL</td>
<td>ACGIH</td>
<td>200 ppm</td>
<td>400 ppm</td>
<td>A4</td>
</tr>
<tr>
<td>PROPAN-2-OL</td>
<td>PEL</td>
<td>400 ppm</td>
<td>980 mg/m3</td>
<td></td>
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</table>
FRZA - ANTI-STATIC CIRCUIT CHILLER AEROSOL

<table>
<thead>
<tr>
<th>COMPONENT</th>
<th>IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROPAN-2-OL</td>
<td>2000 ppm</td>
</tr>
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</table>

ACGIH = American Conference of Governmental Industrial Hygienists.
A4: Not Classifiable as a Human Carcinogen.

**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**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid Gas Aerosol.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless.</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight odor. Ether</td>
</tr>
<tr>
<td>Solubility</td>
<td>Slightly soluble in water.</td>
</tr>
<tr>
<td>Vapor density (air=1)</td>
<td>3.6 @ 25 C / 77 F</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>96 PSI 25 C / 77 F</td>
</tr>
<tr>
<td>Flammability Limit - Lower(%)</td>
<td>n/a</td>
</tr>
<tr>
<td>Flammability Limit - Upper(%)</td>
<td>n/a</td>
</tr>
<tr>
<td>Other Flammability</td>
<td>This product is not flammable.</td>
</tr>
</tbody>
</table>

**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

11. TOXICOLOGICAL INFORMATION

Other Health Effects
This substance has no evidence of carcinogenic properties.

Toxicological Information on Ingredients:

**PROPAN-2-OL (CAS: 67-63-0)**
- **Toxic Dose 1 - LD 50**: 5045 mg/kg (oral rat)
- **Toxic Dose 2 - LD 50**: 3600 mg/kg (oral-mouse)
- **Toxic Conc. - LC 50**: 16,000 ppm/1h (inh-rat)

**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.

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

Ecological Information on Ingredients:

**PROPAN-2-OL (CAS: 67-63-0)**
- LC 50, 96 Hrs, Fish mg/l: 9, 640
- EC 50, 48 Hrs, Daphnia, mg/l: 5102
- IC 50, 72 Hrs, Algae, mg/l: >2, 000

**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.

<table>
<thead>
<tr>
<th>14. TRANSPORT INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN No. (DOT/TDG)</td>
</tr>
<tr>
<td>UN No. (ICAO)</td>
</tr>
<tr>
<td>DOT Proper Shipping Name</td>
</tr>
<tr>
<td>DOT Proper Shipping Name</td>
</tr>
<tr>
<td>TDG Proper Shipping Name</td>
</tr>
<tr>
<td>DOT Hazard Class</td>
</tr>
<tr>
<td>DOT Hazard Label</td>
</tr>
</tbody>
</table>

Transport Labels

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

Markings
ORM-D

Packaging Instructions
200

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

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)
The following ingredients are listed.
PROPAN-2-OL

California Air Toxics "Hot Spots" (A-II)
None of the ingredients are listed.

Massachusetts "Right To Know" List
The following ingredients are listed.
PROPAN-2-OL

Rhode Island "Right To Know" List
The following ingredients are listed.
PROPAN-2-OL

Minnesota "Right To Know" List
All ingredients are listed.

New Jersey "Right To Know" List
The following ingredients are listed.
PROPAN-2-OL

Pennsylvania "Right To Know" List
The following ingredients are listed.
PROPAN-2-OL

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 08/08/2013
Revision 10
Supersedes Date 07/31/2013
Sds No. AEROSOL_FRZA
Material Safety Data Sheet Status Approved.
Date 08 August, 2013
FRZA - ANTI-STATIC CIRCUIT CHILLER   AEROSOL

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.