



MATERIAL SAFETY DATA SHEET

1. Chemical Product and Company Identification

Product Name: Micro Freeze Circuit Cooler; #MCC-FRZ. Micro Blast Dry Circuit Cleaner; #MCC-DST, #MCC-DSTZ. Big Blast Dry Circuit Cleaner; #MCC-AIR, #MCC-AIRZ.

Chemical Family: Halogenated Hydrocarbon

Formula: CH₂FCF₃

Packaged By: MicroCare Corp., 595 John Downey Drive, New Britain, CT 06051 USA CAGE/FSCM: OATV9

Emergency Telephone: CHEMTREC (800) 424-9300

2. Composition/Information on Ingredients

Material:

Chemical Name	Wt.%Range	TLV Units
Tetrafluoroethane	100.0	1000 ppm
CAS #811-97-2		

All components of this material are listed on the TSCA inventory.

3. Hazard Identification

Emergency Overview: Clear colorless liquefied gas. Nonflammable. Liquid acts as a refrigerant and exposure of unprotected skin to liquid can cause frostbite. Keep away from children.

Potential Health Effects

Eyes: Vapor contact: May irritate and cause pain and watering.

Liquid contact: Direct contact may irritate seriously with risk of frostbite. Persons wearing contact lenses should wear chemical protective safety glasses when using this product.

Skin: Contact can cause frostbite.

Ingestion: Not considered a potential route of exposure due to the volatile nature of material. Contact with liquid can cause frostbite to mouth and throat tissues.

Inhalation: Harmful if inhaled. Inhalation of high concentrations of vapors is harmful and may cause heart irregularities, unconsciousness or death. Intentional misuse or deliberate inhalation may cause death without warning. Vapor reduces oxygen available for breathing and is heavier than air.

Medical Conditions Aggravated by Exposure: Preexisting disease of the central nervous or cardiovascular system may have increased susceptibility to the toxicity of excessive exposures.

4. First Aid Measures

Eyes: Immediately flush with water. Remove any contact lenses and continue flushing for 15 minutes, lifting eyelids occasionally until no evidence of the chemical remains. If irritation develops or persists call a physician.

Skin: Wash promptly with soap and warm water for at least 15 minutes. Remove contaminated clothing and shoes. If irritation develops or persists call a physician.

Ingestion: Not considered a potential route of exposure. Treat for possible frostbite. Swallowing less than an ounce of material is unlikely to cause significant harm. For larger amounts, do not induce vomiting. Call a physician.

Inhalation: Remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Note to Attending Physician: There is no specific antidote to overexposure. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient.

Immediate medical attention for acute overexposure is required.

5. Firefighting Measures

Flash Point: Will not burn.

Autoignition Temperature: > 750° C

Flammable Limits in Air: LEL/UEL: Not Applicable.

Extinguishing Media: Use dry chemical, "alcohol" foam, CO₂ or water.

Special Firefighting Procedures: Evacuate personnel. Wear self contained breathing apparatus (SCBA) and full protective equipment. Keep containers cool. Containers build pressure under fire conditions causing violent bursting and dangerous propelling of container.

6. Accidental Release Measures

Spill or Leak: Although the chances of a large spill or leak is unlikely in aerosol containers, in the event of such an occurrence, evacuate area. Protected personnel should remove ignition sources and shut off fire sources. Provide ventilation.

7. Handling and Storage

Avoid breathing vapors or mist. Keep containers closed. Use only with adequate ventilation. Avoid repeated or prolonged contact with eyes, skin or clothing. Wash thoroughly after handling. Do not store in direct sunlight. Store in cool dry place, away from heat, sparks or flames which may generate toxic decomposition products. Vapors are heavy and may concentrate in low poorly ventilated areas.

8. Exposure Controls/Personal Protection

Respiratory Protection: Use only with adequate ventilation. Keep container closed. Use approved NIOSH self-contained or supplied air respirators for emergencies and in situations where air may be displaced by vapors.

Eye Protection: Use chemical protective safety glasses.

Protective Clothing: Where there is potential for skin contact, use appropriate impervious gloves, apron, pants and jacket.

Exposure Guidelines: Applicable Exposure Limits.

Tetrafluoroethane:

PEL (OSHA)	none established
TLV (ACGIH)	none established
AEL (DuPont)	1000 ppm, 8 & 12 hour TWA
WEEL (AIHA)	1000 ppm, 8 hour TWA

NFPA, NPCA-HIMIS RATING:

Health	1
Flammability	0
Reactivity	1

Personal Protection rating to be supplied by user depending on use conditions.

9. Physical and Chemical Properties

Physical Form:	Liquefied Gas
Odor:	Slight Ethereal
Boiling Point:	-26.5° C / -15.7° F
pH:	Not Applicable
Solubility in Water:	0.15 wt.% @ 25° C (77° F) @ 14.7 psia.
Specific Gravity:	1.208 @ 25° C / 77° F
% Volatile by Weight:	100
Vapor Pressure:	96 psia @ 25° C / 77° F
Vapor Density (air=1):	3.6 @ 25° C / 77° F

10. Reactivity

Chemical Stability: Material is stable.

Hazardous Polymerization: Will not occur.

Incompatibilities: Avoid oxidizing materials which can cause a reaction.

Decomposition Products: High temperatures (open flames, glowing metal surfaces, etc.) will decompose this material forming hydrofluoric acid and possibly carbonyl fluoride.

11. Toxicological Information

Carcinogenicity: None of the components present in this product are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

12. Ecological Information

Aquatic Toxicity:

48 hour EC50 - Daphnia magna: 980 mg/L

96 hour LC50 - Rainbow Trout: 450 mg/L

13. Disposal Considerations

Waste Disposal: Recover by distillation or remove to a permitted waste disposal facility. Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial and Local regulations.

14. Transportation Information

Transport for Aerosol Packaging:

Ground Transport: Consumer Commodity ORM-D

Air Transport: Refrigerant Gas, N.O.S. (Tetrafluoroethane), UN1078, Class 2.2, Pkg.Group N/A, Pkg. Instr. 200, Authorization: per DOT-E-10232. NOTE: Exemption copy required with shipping papers. Hazard Label: Nonflammable Gas

15. Regulatory Information

Section 313 Supplier Information: This material contains the following toxic chemicals subject to the emergency reporting requirements of Section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40 CFR 372:

CAS#	Chemical Name	% by Weight
	None	

This information must be included in all MSDSs that are copied and distributed for this material.

Title III Hazard Communications Sections 311, 312

Acute	Yes
Chronic	No
Fire	No
Reactivity	No
Pressure	No

16. Other Information

For additional information, contact Tech Support at MicroCare: Telephone (860) 827-0626 or email: techsupport@microcare.com