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**\*\* MATERIAL SAFETY DATA SHEET \*\***  
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 Information Phone # : (310) 699-5070

Latest Revision Date...05/24/94  
 Print Date.....07/06/94  
 EMERGENCY PHONE NUMBER: 1-800-424-9300

**SUPER FLOW**  
*(medea cleaner)*

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**SECTION 1 PRODUCT IDENTIFICATION**  
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PRODUCT NAME OR NUMBER..... SUPER CLEAR  
 TRADE NAME OR CHEMICAL NAME..... SUPER FLOW *(medea cleaner)*  
 SYNONYMS..... NONE  
 FORMULA..... PROPRIETARY  
 CHEMICAL FAMILY..... CLEANER  
 MOLECULAR WEIGHT..... N/A  
 NFPA..... SEE SECTION 7

HMIS RATING..... SEE SECTION 7

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**SECTION 2 HAZARDOUS INGREDIENTS / HAZARD DATA**  
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CHEMICAL NAME(S)	CAS NUMBER	X WT	TLV-TWA	PEL	SEC.313
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**SECTION 3 PHYSICAL DATA**  
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BOILING/MELTING POINT @760 mm Hg >212°F  
 pH..... <9.0  
 VAPOR PRESSURE mm Hg @20° C..... N/A  
 VAPOR DENSITY (Air = 1)..... N/A  
 PERCENT VOLATILE BY WEIGHT (%).. 86  
 SPECIFIC GRAVITY OR BULK DENSITY 1.02  
 SOLUBILITY IN WATER..... COMPLETE  
 EVAPORATION RATE (BuAc = 1)..... N/A  
 APPEARANCE..... CLEAR LIQUID  
 ODOR..... NONE  
 INTENSITY..... N/A

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**SECTION 4 FIRE AND EXPLOSION HAZARD DATA**  
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FLASH POINT °F (Test Method).... NONE  
 AUTOIGNITION TEMPERATURE..... NONE  
 FLAMMABILITY LIMITS IN AIR (% V) NONE  
 EXTINGUISHING MEDIA..... WATER, CO2, FOG  
 SPECIAL FIRE FIGHTING PROCEDURES WEAR SCBA

UNUSUAL FIRE & EXPLOSION HAZARDS NONE

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**SECTION 5 HEALTH HAZARD DATA \* EFFECTS OF OVEREXPOSURE**  
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THRESHOLD LIMIT VALUE.....SEE SECTION 2

SIGN AND SYMPTOMS OF EXPOSURE

SUPER FLOW

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SECTION 5                      HEALTH HAZARD DATA \* EFFECTS OF OVEREXPOSURE                      CONT'D

EYES.....IRRITATION

SKIN.....IRRITATION

CRONIC OVEREXPOSURE.....NONE KNOWN

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SECTION 6                      EMERGENCY AND FIRST AID PROCEDURES

INHALATION.....MOVE SUBJECT TO FRESH AIR. IF BREATHING IS DIFFICULT, OBTAIN MEDICAL HELP.

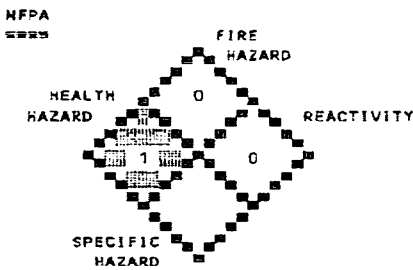
EYES.....FLUSH EYES WITH A LARGE AMOUNT OF WATER FOR AT LEAST 15 MINUTES. CONSULT A PHYSICIAN IF IRRITATION PERSISTS.

SKIN.....WASH AFFECTED SKIN AREAS WITH SOAP AND WATER. CONSULT PHYSICIAN IF IRRITATION PERSISTS.

INGESTION.....IF SWALLOWED, GIVE 2 GLASSES OF WATER TO DRINK. CONSULT A PHYSICIAN. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

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SECTION 7                      HMIS RATING SYSTEM



HMIS RATING

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HEALTH HAZARD.....:1

FIRE HAZARD.....:0

REACTIVITY.....:0

PERSONAL PROTECTION...:NR (SECT.9)

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SECTION 8                      REACTIVITY DATA

PRODUCT STABILITY..... STABLE

Conditions to Avoid..... EXCESSICE HEAT

CHEMICAL INCOMPATIBILITY..... NOT KNOWN

HAZARDOUS DECOMPOSITION PRODUCTS CARBON DIOXIDE

HAZARDOUS POLYMERIZATION..... WILL NOT OCCUR

Conditions to Avoid..... NONE

CORROSIVE TO METAL..... NO

OXIDIZER..... NO

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SECTION 9                      SPECIAL PROTECTION INFORMATION

RESPIATORY PROTECTION.....NOT NEEDED

VENTILATION:

LOCAL EXHAUST.....NOT NEEDED

SUPER FLOWSECTION 9SPECIAL PROTECTION INFORMATION

CONT'D

PROTECTIVE CLOTHING.....SAFETY GLASSES, NEOPRENE OR RUBBER GLOVES.

SECTION 10ENVIRONMENTAL DATA

ENVIRONMENTAL TOXICITY DATA..... NONE  
 SPILL OR LEAK PROCEDURES..... CONTAIN, COLLECT AND DISPOSE OF  
 HAZARDOUS SUBSTANCE SUPERFUND... NONE  
 WASTE DISPOSAL METHOD..... PER LOCAL, STATE AND FEDERAL REGULATIONS  
 HAZARDOUS WASTE 40CFR261..... NONE  
 CONTAINER DISPOSAL..... PER LOCAL, STATE AND FEDERAL REGULATIONS

SECTION 11SHIPPING DATA

D.O.T. PROPER SHIPPING NAME..... NONE  
 HAZARDOUS SUBSTANCE 49CFR CERCLA NONE  
 D.O.T. HAZARD CLASS..... NONE  
 D.O.T. LABELS REQUIRED..... NONE  
 D.O.T. PLACARDS REQUIRED..... NONE  
 POISON CONSTITUENT..... NONE  
 BILL OF LADING DESCRIPTION..... SUPER FLOW(*medea cleaner*)  
 PACKING GROUP..... NONE  
 UN/NA CODE..... NON-HAZARDOUS

SECTION 12SUPPLIER INFORMATION

While Artool Products Company believes the statements set forth herein are accurate as of the date hereof, Artool Products Company makes no warranty with the respect thereto and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation, and verification.



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## AIR BLAST CANNED PROPELLANT MATERIAL SAFETY DATA SHEET

### Item #

020 010 6 oz AIRBLAST (12 bottles per case)  
 020 014 14 oz AIRBLAST (12 bottles per case)

### 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:** CH<sub>2</sub> FCF<sub>3</sub>

**Packaged By:** Micro Care Corp., 595 John Downey Dive, 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 CAS #811-97-2	100.0	1000 ppm

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.

**Auto ignition 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 chance 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)	non established
TLV (ACGIH)	non established
AEL (DuPont)	1000 ppm, 8 & 12 hour TWA
WEEL (AIHA)	1000 ppm, 8 hour TWA

**NFPA, NPCS-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 possibility 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 consideration

**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 2.0, Pkg. Group N/A, Pkg. Instr. 200, Authorization: "Cargo Aircraft Only" 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.

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CAS#	Chemical Name	% by Weight.
	None	

*This information must be included in all MSDS's that are copied and distributed fro 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 Micro Care:  
Telephone (860) 827-0626 or e-mail: techsupport @ microcare.com