

# Material Safety Data Sheet

<b>Revision Date</b> February 2 <sup>nd</sup> , 2005	<b>Prepared by</b> David MacKinnon	<b>Technical Information</b> 1-800-201-8822 or <a href="mailto:support@mgchemicals.com">support@mgchemicals.com</a>
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## Section 1: Product Identification

**MSDS Code: 403A - aerosol**

**Name: Super Cold 134 Plus**

**Related Part Numbers: 403A-285G; 403A-400G**

Use: For locating thermal intermittents.

## Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
811-97-2	1,1,1,2 - tetrafluoroethane	100	n/e	n/e	n/e

## Section 3: Hazards Identification

**WHMIS Codes: A**

**NFPA Ratings:** Health 1 Flammability 0 Reactivity 0

**HMIS Ratings:** Health 1 Flammability 0 Reactivity 0

**Eyes:** Contact with eye may cause severe tissue damage because of frostbite.

**Skin:** Contact with liquid or escaping vapor can cause frostbite, indicated by pallor or redness, loss of sensation, and swelling.

**Inhalation:** Low in toxicity in concentrations up to 40000ppm. When oxygen levels in air are reduced to 12% - 14% symptoms of asphyxiation will occur: loss of coordination, increased pulse rate, and deeper respiration.

**Ingestion:** Improbable due to low boiling point (-26.2C)

**Chronic:** Over exposure may cause dizziness and loss of concentration. At higher levels, CNS depression and cardiac arrhythmia may result from exposure.

## Section 4: First Aid Measure

**Eyes:** Immediately bathe (do not rub) any frostbite with lukewarm (not hot) water. In the absence of water, cover with soft wool or other suitable material. Contact a physician for any low temperature burns from liquid contact.

**Skin:** Immediately bathe (do not rub) any frostbite with lukewarm (not hot) water. In the absence of water, cover with soft wool or other suitable material. Contact a physician for any low temperature burns from liquid contact.

**Inhalation:** Immediately remove from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Ingestion:** Improbable due to low boiling point (-40.8°C).



**Section 5: Fire Fighting Measures**

**Autoignition Temperature** >750°C  
**Flash Point:** n/a  
**LEL / UEL:** n/a  
**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.  
**General Information:** This material may become flammable when mixed with air under pressure and exposed to strong ignition sources. Containers may explode in the heat of a fire.

**Section 6: Accidental Release Measures**

**Spill Procedure:** Avoid breathing vapors. Ventilate area thoroughly.

**Section 7: Handling and Storage**

**Handling:** Avoid contact with eyes, skin, and clothing. Do not inhale. Do not expose container to heat or flame.  
**Storage:** Keep away from direct sunlight, heat, and sources of ignition. Store in a cool, dry, well ventilated area.

**Section 8: Exposure Controls**

**Routes of entry:** Eyes, ingestion, inhalation, and skin.  
**Ventilation:** Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.  
**Personal Protection:** Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

**Section 9: Physical and Chemical Properties**

<b>Physical State:</b>	Aerosol	<b>Odor:</b>	ethereal	<b>Solubility:</b>	0.15%	<b>Evaporation Rate:</b>	1 (ether=1)	
<b>Boiling Point:</b>	-26.2°C	<b>Specific Gravity:</b>	1.22	<b>Vapor Pressure:</b>	86 PSI @21°C	<b>Vapor Density:</b>	3.5 (Air=1)	<b>pH:</b> 7

**Section 10: Stability and Reactivity**

**Stability:** Stable at normal temperatures and pressures. Do not mix with oxygen or air above atmospheric pressure. Any source of high temperature, such as lit cigarettes, flames, or welding may yield toxic and/or corrosive decomposition products.  
**Conditions to avoid:** Temperatures over 40°C, ignition sources, and incompatible materials.  
**Incompatibilities:** Alkali and alkaline earth metals, powdered aluminum, zinc, magnesium, and beryllium.  
**Polymerization:** Will not occur.  
**Decomposition:** Halogens, halogen acids, possibly carbonyl halides.

## Section 11: Toxicological Information

<b>Sensitization:</b> (effects of repeated exposure)	No
<b>Carcinogenicity:</b> (risk of cancer)	The ingredients of this product are not classified as being carcinogenic by ACGIH (American Conference of Governmental industrial Hygienists) or IARC (International Agency for Research on Cancer), not regulated as carcinogens by OSHA (Occupational Safety and Health Administration), and not listed as carcinogens by NTP (National Toxicology Program)
<b>Teratogenicity:</b> (risk of malformation in an unborn fetus)	No
<b>Reproductive Toxicity:</b> (risk of sterility)	No
<b>Mutagenicity:</b> (risk of heritable genetic effects)	No
<b>Lethal Exposure Concentrations:</b>	<b>Ingestion(LD50):</b> n/e <b>Inhalation(LC50):</b> 500000 ppm/4h (rat) <b>Skin(LD50):</b> n/e

## Section 12: Ecological Information

<b>General Information:</b>	Avoid runoff into storms and sewers which lead into waterways. Water runoff can cause environmental damage.				
<b>Environmental Impact Data:</b> (percentage by weight)					
<b>CFC:</b> 0	<b>HFC:</b> 100	<b>Cl.Solv.:</b> 0	<b>VOC:</b> 0	<b>HCFC:</b> 0	<b>ODP:</b> 0

## Section 13: Disposal Information

<b>General Information:</b>	Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.
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## Section 14: Transportation Information

**Ground:**

Consumer Commodity, ORM-D

**Air:**

Cannot be shipped by air.

**Sea:**

Limited quantity, 1,1,1,2-tetrafluoroethane, UN#3159, Class 2.2. Shipper must be trained and certified. Refer to IMDG regulations.

## Section 15: Regulatory Information

**This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.**

**SARA** (Superfund Amendments and Reauthorization Act of 1986, USA, 40 CFR 372.4)

None of the chemicals in this product have a reportable quantity.

**EPCRA** (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product does not contain any chemicals subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

**CAA** (Clean Air Act, USA)

This product does not contain any class 1 ozone depletors.

This product does not contain any class 2 ozone depletors.

This product does not contain any chemicals listed as hazardous air pollutants.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

### Health Canada

Labeling and containers used in this product are listed in compliance with Consumer Chemicals and Container regulations.

### Environment Canada

Chemicals in this product are listed on the Domestic Substances List in the Canadian Environmental Protection Act

This product does not contain any ozone depleting substances.

### Industry and Science Canada

Labeling, product identity, net quantity declaration, minimum printing type size heights, and packaging of this product is in compliance with the Consumer Packaging and Labeling Act and Regulations. This product is not slack filled in accordance to chapter 4 prohibitions.

**RoHS** (The restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2004).

This product is RoHS compliant.

## Section 16: Other Information

**Definitions:** n/a = not applicable, n/e = not established

**Disclaimer:** This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.