

SUPER COLD™ 134

403A-AEROSOL

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Identifier:** Super Cold™ 134**SDS Code:** 403A-Aerosol**Related Part #** 403A-285G, 403A-400G

### Recommended Use and Restriction on Use

**Use:** For cooling electronic components and locating thermal intermittents**Uses Advised Against:** Not available

### Details of Manufacturer or Importer

**Manufacturer**MG Chemicals  
1210 Corporate Drive  
Burlington, Ontario L7L 5R6  
CANADA**TEL** +1-800-340-0772**FAX** +1-800-340-0773**E-MAIL** [info@mgchemicals.com](mailto:info@mgchemicals.com)**WEB** [www.mgchemicals.com](http://www.mgchemicals.com)**TEL** +1-905-331-1396**FAX** +1-905-331-2682**E-MAIL** [support@mgchemicals.com](mailto:support@mgchemicals.com)**E-MAIL** (Competent Person): [sds@mgchemicals.com](mailto:sds@mgchemicals.com)

### Emergency Phone Number

**For hazardous material incidents ONLY** (leaks, spills, fires, exposures or accidents)USA or CANADA—Call Verisk 3E at **+1-866-519-4752** or **+1-760-476-3962**

(Service access code: 335388)

**For emergencies involving the transport of dangerous goods;** 24/7 serviceCANADA—Call CANUTEC collect at **+1-613-996-6666** or **\*666** on cellular phones

**SUPER COLD™ 134**
**403A-AEROSOL**
**Section 2: Hazard(s) Identification**
**Classification of Hazardous Chemical**
**GHS Categories**

| Criteria | Category | Signal Word | Pictograms       |
|----------|----------|-------------|------------------|
| Aerosols | 3        | Warning     | <i>No symbol</i> |

*Note:* The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

**Label Elements**

|                           |  |
|---------------------------|--|
| <b>Signal Word</b>        | <b>WARNING</b>   |
| <b>Pictograms</b>         | <b>Hazard Statements</b>   |
| <i>No symbol mandated</i> | H229: Pressurized container: may burst if heated   |
| <b>Prevention</b>         | <b>Precautionary Statements</b>  |
| P102                      | Keep out of reach of children.   |
| P210                      | Keep away from heat, hot surfaces, sparks, flames, and other ignition sources. No Smoking. |
| P251                      | Do not pierce or burn, even after use.   |
| <b>Storage</b>            | <b>Precautionary Statements</b>  |
| P410 + P412               | Protect from sunlight. Do not expose to temperatures exceeding 50 °C [122 °F].             |

*Section continued on the next page*

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**Hazards Not Otherwise Classified**

| Other Criteria          | Hazard Statements/Precautionary Statement   | Signal Word | Pictograms |
|-------------------------|---|-------------|------------|
| Simple Asphyxiants      | May displace oxygen and cause rapid suffocation.  | Warning     | none       |
| Frostbite               | The jet or liquid may cause frostbite in contact with skin or eyes.   | Warning     | none       |
| Inhalation overexposure | Inhalation overexposure following an intentional abuse or use in confined space may cause cardiac or central nervous systems effects. | none        | none       |

**Section 3: Composition/Information on Ingredients**

| CAS #    | Chemical Name                           | %(weight) |
|----------|---|-----------|
| 811-97-2 | 1,1,1,2-tetrafluoroethane <sup>a)</sup> | 100%      |

a) Also known as HFC 134a

**Section 4: First-Aid Measures**

| <i>Exposure Condition</i> | <i>GHS Code/Symptoms/Precautionary Statements</i>   |
|---------------------------|---|
| <b>IF INHALED</b>         | P304 + P340, P312   |
| <b>Immediate Symptoms</b> | <i>dizziness, drowsiness, heart thumping</i>  |
| <b>Response</b>           | Remove person to fresh air and keep comfortable for breathing.<br>If you feel unwell: Call a POISON CENTRE or doctor.   |
| <b>IF IN EYES</b>         | P305 + P351 + P338, P336 + P315   |
| <b>Immediate Symptoms</b> | <i>frostbite, cold burns</i>  |
| <b>Response</b>           | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br><br>If frostbite occurs: Thaw frosted parts with lukewarm water. Do not use hot water. Do not rub affected area. Get immediate medical attention. |

*Section continued on the next page*

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|                           |   |
|---------------------------|---|
| <b>IF ON SKIN</b>         | P302 + P352, P336 + P315  |
| <b>Immediate Symptoms</b> | <i>frostbite, cold burns</i>  |
| <b>Response</b>           | Wash with plenty of water.<br><br>If frostbite occurs: Thaw frosted parts with lukewarm water. Do not use hot water. Do not rub affected area. Get immediate medical attention. |
| <b>IF SWALLOWED</b>       | P301 + P330, P336 + P315  |
| <b>Immediate Symptoms</b> | <i>frostbite (mouth)</i>  |
| <b>Response</b>           | Rinse mouth.<br><br>If frostbite occurs: Thaw frosted parts with lukewarm water. Do not use hot water. Do not rub affected area. Get immediate medical attention.               |

**Medical Advice**

Avoid giving catecholamine drugs (such as epinephrine) due to possible cardiac disturbance. Treat symptomatically.

**Section 5: Fire-Fighting Measures**

|                            |  |
|----------------------------|--|
| <b>Extinguishing Media</b> | In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.<br><br>Use water spray to cool containers.   |
| <b>Specific Hazards</b>    | Aerosols containers may erupt with force at temperatures above 50 °C [122 °F].<br><br>Produces irritating and toxic fumes in fires or in contact with hot surfaces.<br><br>The vapors are heavier than air and may displace oxygen in low-lying areas creating a suffocation hazard. |
| <b>Combustion Products</b> | Produces carbon oxides (CO,CO <sub>2</sub> ), halogenated compounds, and hydrogen fluorides.   |
| <b>Fire-Fighter</b>        | Wear self-contained breathing apparatus and full fire-fighting turn-out gear.  |

**Section 6: Accidental Release Measures**

|                                  |  |
|----------------------------------|--|
| <b>Personal Protection</b>       | See personal protection recommendations in Section 8.<br><br>For very large spills, wear self-contained breathing apparatus before approaching the spill. Wear cold-insulating clothing and gloves.                                |
| <b>Precautions for Response</b>  | For aerosol can spills in confined or low lying space, leave the immediate spill area.<br><br>If it can safely be done, extinguish open flames or remove high temperature sources to avoid producing toxic decomposition products. |
| <b>Environmental Precautions</b> | Not required under normal use.   |
| <b>Containment Methods</b>       | Not applicable   |
| <b>Cleaning Methods</b>          | For aerosol can spills at room temperature, the product turns gaseous and disperses in atmosphere. Ensure adequate ventilation, especially in low or enclosed areas.   |
| <b>Disposal Methods</b>          | Dispose of spill waste according to Section 13.  |

**Section 7: Handling and Storage**

|                   |   |
|-------------------|---|
| <b>Prevention</b> | Keep out of reach of children.<br><br>Avoid direct skin or eye contact with liquid or aerosol jet.<br><br>Avoid breathing gas or spray. In cases of inadequate ventilation wear respiratory protection.<br><br>Do not pierce or burn, even after use. |
| <b>Handling</b>   | Wear cold-insulating gloves if exposure to liquid or aerosol jet is likely.<br>Wear eye protection.   |
| <b>Storage</b>    | Protect from sunlight. Do not expose to temperatures exceeding 50 °C [122 °F].  |

**Section 8: Exposure Controls/Personal Protection**
**Substances with Occupational Exposure Limit Values**

| Chemical Name              | Country/<br>Provinces  | Long Term<br>Exposure Limits<br>(PEL)                              | Short Term<br>Exposure Limits<br>(STEL)                                  |
|----------------------------|--|--|--|
| 1,1,1,2- tetrafluoroethane | MG Chemicals <sup>a)</sup><br>ACGIH<br>U.S.A. OSHA PEL<br>Canada | 1 000 ppm<br>Not established<br>Not established<br>Not established | Not established<br>Not established<br>Not established<br>Not established |

*Note:* The ACGIH<sup>1</sup>, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

a) MG Chemicals recommended limit corresponding to prevalent international threshold values

**Engineering Controls**
**Ventilation**

Keep airborne concentrations below the occupational exposure limits (OEL).

General ventilation is adequate for normal use; keep overall exposure as low as possible.

**Personal Protective Equipment**
**Eye protection**

Wear appropriate protective eyeglasses or chemical safety goggles.

**RECOMMENDATION:** Ensure that glasses have side shields for lateral protection.

**Skin Protection**

If exposure to the jet or liquid is likely, wear cold-insulating gloves to protect the skin against frostbites.

**Respiratory Protection**

For extreme exposures, use self-contained breathing apparatus or supplied by air.

**General Hygiene Considerations**

Wash hands thoroughly with water and soap after handling.

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**Section 9: Physical and Chemical Properties**

|  |                                  |  |                      |
|--|----------------------------------|--|----------------------|
| <b>Physical State</b>                      | Liquified gas, in aerosol format | <b>Lower Flammability Limit</b>              | Not applicable       |
| <b>Appearance</b>                          | Colorless                        | <b>Upper Flammability Limit</b>              | Not applicable       |
| <b>Odor</b>                                | Slight, ether-like               | <b>Vapor Pressure @25 °C</b>                 | 630 kPa [4 725 mmHg] |
| <b>Odor Threshold</b>                      | Not available                    | <b>Vapor Density</b>                         | 3.5 (Air =1)         |
| <b>pH</b>                                  | Not Available                    | <b>Relative Density @25 °C</b>               | 1.21                 |
| <b>Freezing/Melting Point</b>              | -101 °C [-150 °F]                | <b>Solubility in Water</b>                   | 0.15% (wt)           |
| <b>Initial Boiling Point</b> <sup>a)</sup> | -26.2°C [-15.2 °F]               | <b>Partition Coefficient n-octanol/water</b> | 1.06 <sup>a)</sup>   |
| <b>Flash Point</b>                         | None detected                    | <b>Auto-ignition Temperature</b>             | 750 °C [1 382 °F]    |
| <b>Evaporation Rate</b>                    | ≥1 (Ether = 1)                   | <b>Decomposition Temperature</b>             | Not available        |
| <b>Flammability</b>                        | Non Flammable                    | <b>Viscosity @40 °C</b>                      | Not available        |

*Note:* Literature values are used.

a) Octanol-water LogP value

**Section 10: Stability and Reactivity**

|                            |  |
|----------------------------|--|
| <b>Reactivity</b>          | Not available  |
| <b>Chemical Stability</b>  | Chemically stable at normal temperatures and pressures.  |
| <b>Conditions to Avoid</b> | Temperatures above 50 °C [122 °F], open flames, and incompatible substances                                  |
| <b>Incompatibilities</b>   | Strong oxidizing agents, alkali or alkali earth metals, powdered aluminum, zinc, magnesium, and beryllium    |
| <b>Polymerization</b>      | Will not occur   |
| <b>Decomposition</b>       | Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5. |

**SUPER COLD™ 134****403A-AEROSOL****Section 11: Toxicological Information****Summary of Effects and Symptoms by Routes of Exposure**

|                   |  |
|-------------------|--|
| <b>Eyes</b>       | See skin symptoms.   |
| <b>Skin</b>       | Contact with the liquid may cause frostbite due to heat lost caused by rapid evaporation. Exposure to the jet can also lead to frostbites, because it can reach -55 °C [-67 °F]. |
| <b>Inhalation</b> | Extreme exposure may cause central nervous system depression and irregular heart beat.   |
| <b>Ingestion</b>  | See inhalation and skin symptoms.  |
| <b>Chronic</b>    | No chronic effects known.  |

**Acute Toxicity (Lethal Exposure Concentrations)**

| <b>Chemical Name</b>      | <b>LD50 oral</b> | <b>LD50 dermal</b> | <b>LC50 inhalation</b>            |
|---------------------------|------------------|--------------------|-----------------------------------|
| 1,1,1,2-tetrafluoroethane | Not available    | Not available      | 1 500 g/m <sup>3</sup><br>4 h Rat |

*Note:* Toxicity data from the ECHA database were consulted. The data from supplier SDS were also consulted.

**Other Toxicological Effects**

|  |  |
|--|--|
| <b>Skin corrosion/irritation</b>                           | Based on available data, the classification criteria are not met.  |
| <b>Serious eye damage/irritation</b>                       | Based on available data, the classification criteria are not met.  |
| <b>Sensitization</b><br>(allergic reactions)               | Based on available data, the classification criteria are not met.  |
| <b>Carcinogenicity</b><br>(risk of cancer)                 | None of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.           |
| <b>Mutagenicity</b><br>(risk of heritable genetic effects) | Based on available data, the classification criteria are not met. No mutagenic effects observed in four tests. |

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**SUPER COLD™ 134****403A-AEROSOL****Reproductive Toxicity**  
(risk to sex functions)

Based on available data, the classification criteria are not met.

**Teratogenicity**  
(risk of fetus malformation)

Based on available data, the classification criteria are not met. No observed effect level (NOEL) for rabbit and rat is 40 000 ppm.

**STOT-single exposure**

Based on available data, the classification criteria are not met. Can affect the central nervous system and cardiovascular systems by inhalation at extreme doses that do not give rise to classification.

**STOT-repeated exposure**

Based on available data, the classification criteria are not met. The chronic no observed effect level is 10 000 ppm.

**Aspiration hazard**

Based on available data, the classification criteria are not met. The liquid content is not classifiable as an aspiration hazard of category 1 or 2.

**Section 12: Ecological Information**

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

The 1,1,1,2-tetrafluoroethane substance is not classifiable as an environmental toxicant.

**Acute Ecotoxicity**

Based on available data, the classification criteria are not met.

**Chronic Ecotoxicity**

Based on available data, the classification criteria are not met.

**Biodegradability**

No data available

**Other Effects****Global Warming Potential**

The 100 years global warming potential is 1430.

VOC (Volatile Organic Compounds) exempted substance according to the US (EPA) and Canadian (CEPA) authorities.

**SUPER COLD™ 134****403A-AEROSOL****Section 13: Disposal Information**

Dispose of contents in accordance with all local, regional, national, and international regulations.

**Section 14: Transport Information****Ground****Refer to USA DOT 49 CFR (Parts 100 to 185) Regulations.**

USA

403A-285G, 403A-400G

**Limited Quantity**

ORM-D

Consumer

Commodity



**USA**—Special Provision: Refer to DOT-SP 10232. A copy of this special permit is required.  
<https://www.mgchemicals.com/downloads/compliance/Permit Offer SP10232.pdf>

**Refer to TDG(Canadian Transportation of Dangerous Goods regulations) Regulations.**

Canada (Excluding USA)

403A-285G, 403A-400G

**Limited Quantity**

**CANADA**— Container meets TC-2R specifications.

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**SUPER COLD™ 134**

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**Air**

**Refer to ICAO-IATA Dangerous Goods Regulations.**

USA

403A-285G, 403A-400G

**Limited Quantity**

ORM-D

Consumer

Commodity



*FOR REFERENCE ONLY*

**UN number:** UN3159

**Shipping Name:** 1,1,1,2-Tetrafluoroethane

**Class:** 2.2

**Packing Group:** Not applicable

**Marine Pollutant:** No

**USA**—Special Provision: Refer to DOT-SP 10232. A copy of this special permit is required.  
<https://www.mgchemicals.com/downloads/compliance/Permit Offer SP10232.pdf>

*Note:* Avoid shipping by air if possible.

**Refer to ICAO-IATA Dangerous Goods Regulations.**

Canada (Excluding USA)

403A-285G, 403A-400G

**Limited Quantity**



*FOR REFERENCE ONLY*

**UN number:** UN1950

**Shipping Name:** AEROSOLS, non-flammable

**Class:** 2.2

**Packing Group:** Not applicable

**Marine Pollutant:** No

**CANADA**— Container meets TC-2R specifications.

*Note:* Avoid shipping by air if possible.

*Section continued on the next page*

**SUPER COLD™ 134****403A-AEROSOL****Sea****Refer to IMDG Regulations.****USA**

403A-285G, 403A-400G

**Limited Quantity**

FOR REFERENCE ONLY

**UN number:** UN3159**Shipping Name:** 1,1,1,2-Tetrafluoroethane**Class:** 2.2**Packing Group:** Not applicable**Marine Pollutant:** No

**USA**—Special Provision: Refer to DOT-SP 10232. A copy of this special permit is required.  
<https://www.mgchemicals.com/downloads/compliance/Permit Offer SP10232.pdf>

**Refer to IMDG Regulations.****Canada (Excluding USA)**

403A-285G, 403A-400G

**Limited Quantity**

FOR REFERENCE ONLY

**UN number:** UN1950**Shipping Name:** AEROSOLS, non-flammable**Class:** 2.2**Packing Group:** Not applicable**Marine Pollutant:** No

**CANADA**— Container meets TC-2R specifications.

**Note:** Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

**Section 15: Regulatory Information****Canada****Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)**

All hazardous ingredients are listed on the DSL.

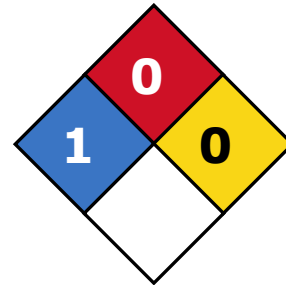
**Hazardous Products Act (R.S.C., 1985, c. H-3)**

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

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**SUPER COLD™ 134****403A-AEROSOL****USA****Other Classifications****HMIS® RATING**

|                             |          |          |
|-----------------------------|----------|----------|
| <b>HEALTH:</b>              | <b>*</b> | <b>1</b> |
| <b>FLAMMABILITY:</b>        |          | <b>0</b> |
| <b>PHYSICAL HAZARD:</b>     |          | <b>0</b> |
| <b>PERSONAL PROTECTION:</b> |          |          |

**NFPA® 704 CODES**

*Approximate HMIS and NFPA Risk Ratings Legend:*

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

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

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

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

This product does not contain substances which are 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.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, USA).

This product does not contain any of the listed substances.

**Europe****RoHS** (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

**WEEE** (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment, and is therefore not governed by this regulation.

**SUPER COLD™ 134****403A-AEROSOL****Section 16: Other Information****Prepared by the** Regulatory Affairs Department**Date of Revision** 15 April 2024**Supersedes** 07 December 2021**Reason for Changes:** Update to GHS revision 7**Reference**

1) ACGIH 2023 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2023).

**Abbreviations**

|       |   |
|-------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists (USA)       |
| ECHA  | European Chemicals Agency   |
| EU    | European Union  |
| EC50  | Half maximal effective concentration                                  |
| EL50  | Half maximal effective loading  |
| IARC  | International Agency for Research on Cancer                           |
| NOELR | No observable effect loading ratio                                    |
| NTP   | National Toxicology Program   |
| GHS   | Globally Harmonized System of Classification of Labeling of Chemicals |
| LC50  | Lethal Concentration 50%  |
| LCLo  | Lowest published lethal concentration                                 |
| LD50  | Lethal Dose 50%   |
| OEL   | Occupational Exposure Limit   |
| PEL   | Permissible Exposure Limit  |
| SDS   | Safety Data Sheet   |
| STEL  | Short-Term Exposure Limit   |
| TCLo  | Lowest published toxic concentration                                  |
| TWA   | Time Weighted Average   |
| VOC   | Volatile Organic Content  |

*Section continued on the next page*

**SUPER COLD™ 134****403A-AEROSOL**

**Technical Queries** Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at [www.mgchemicals.com](http://www.mgchemicals.com).

Email: [support@mgchemicals.com](mailto:support@mgchemicals.com)

Phone: +1-905-331-1396

**Mailing Addresses** *Manufacturing & Support*  
1210 Corporate Drive  
Burlington, Ontario, Canada  
L7L 5R6

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