# Freon™ 134a Auto

## Version 3.0

Revision Date 10/20/2015  Ref. 130000024024

This SDS adheres to the standards and regulatory requirements of Canada and may not meet the regulatory requirements in other countries.

## SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product name</th>
<th>Freon™ 134a Auto</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tradename/Synonym</td>
<td>SUVA® 134a Auto</td>
</tr>
<tr>
<td></td>
<td>HFC-134a</td>
</tr>
<tr>
<td>MSDS Number</td>
<td>130000024024</td>
</tr>
<tr>
<td>Product Use</td>
<td>Refrigerant, For professional users only.</td>
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</table>
| Manufacturer       | THE CHEMOURS CANADA COMPANY  
                    | PO BOX 118  
                    | STREETSVILLE ON L5M 2B7 |

| Product Information| 1-844-773-CHEM          |
| Medical Emergency  | 1-866-595-1473 (outside the U.S. 1-302-773-2000) |

## SECTION 2. HAZARDS IDENTIFICATION

### Emergency Overview

Misuse or intentional inhalation abuse may lead to death without warning. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing. Rapid evaporation of the liquid may cause frostbite.

### Warning symptoms:

- Anaesthetic effects: Light-headedness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness

### Potential Health Effects

| Skin 1,1,1,2-Tetrafluoroethane (HFC-134a) | May cause skin irritation. May cause: Discomfort, itching, redness, or swelling. |

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Eyes

1,1,1,2-Tetrafluoroethane (HFC-134a) : May cause eye irritation. May cause: tearing, redness, or discomfort.

Inhalation

1,1,1,2-Tetrafluoroethane (HFC-134a) : Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation abuse are: anaesthetic effects, light-headedness, dizziness, confusion, incoordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Carcinogenicity

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2-Tetrafluoroethane (HFC-134a)</td>
<td>811-97-2</td>
<td>100 %</td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

Skin contact : In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Consult a physician. Wash contaminated clothing before re-use. Treat for frostbite if necessary by gently warming affected area.
Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician if necessary.

Inhalation: Remove from exposure, lie down. Move to fresh air. Keep patient warm and at rest. Artificial respiration and/or oxygen may be necessary. Consult a physician.

Ingestion: Is not considered a potential route of exposure.

General advice: Never give anything by mouth to an unconscious person. When symptoms persist or in all cases of doubt seek medical advice.

Notes to physician: Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

SECTION 5. FIREFIGHTING MEASURES

Flammable Properties
Flash point: does not flash

Ignition temperature: > 743 °C (> 1369 °F) at 1,013 hPa

Lower explosion limit/ lower flammability limit: Method: None per ASTM E681

Upper explosion limit/ upper flammability limit: Method: None per ASTM E681

Fire and Explosion Hazard: Cylinders are equipped with pressure and temperature relief devices, but may still rupture under fire conditions. Decomposition may occur. Contact of welding or soldering torch flame with high concentrations of this substance can result in visible changes in the size and color of the torch flame. This flame effect will only occur in concentrations of this substance well above the recommended exposure limit. Therefore stop all work and ventilate to disperse vapors from the work area before using any open flames.
Suitable extinguishing media: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Firefighting Instructions: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment. Wear neoprene gloves during cleaning up work after a fire. Exposure to decomposition products may be a hazard to health. Cool containers/tanks with water spray. Water runoff should be contained and neutralized prior to release.

SECTION 6. ACCIDENTAL RELEASE MEASURES

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

Safeguards (Personnel): Evacuate personnel to safe areas. Ventilate area, especially low or enclosed places where heavy vapours might collect. Refer to protective measures listed in sections 7 and 8.

Spill Cleanup: Evaporates. Ventilate area using forced ventilation, especially low or enclosed places where heavy vapors might collect.

Accidental Release Measures: Should not be released into the environment. In accordance with local and national regulations. Self-contained breathing apparatus (SCBA) is required if a large release occurs. Avoid open flames and high temperatures.

SECTION 7. HANDLING AND STORAGE

Handling (Personnel): Use sufficient ventilation to keep employee exposure below recommended limits. For personal protection see section 8. Handle in accordance with good industrial hygiene and safety practice.

Handling (Physical Aspects): Contact with chlorine or other strong oxidizing agents should also be avoided.
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Dust explosion class : Not applicable

Storage:
- Valve protection caps and valve outlet threaded plugs must remain in place unless container is secured with valve outlet piped to use point. Do not drag, slide or roll cylinders. Use a suitable hand truck for cylinder movement. Use a pressure reducing regulator when connecting cylinder to lower pressure (<3000 psig) piping or systems. Never attempt to lift cylinder by its cap. Use a check valve or trap in the discharge line to prevent hazardous back flow into the cylinder. Cylinders should be stored upright and firmly secured to prevent falling or being knocked over.
- Separate full containers from empty containers.
- Keep at temperature not exceeding 52°C. Do not store near combustible materials. Avoid area where salt or other corrosive materials are present.
- The product has an indefinite shelf life when stored properly.

Storage period : > 10 yr

Storage temperature : < 52 °C (< 126 °F)

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: Normal ventilation for standard manufacturing procedures is generally adequate. Local exhaust should be used when large amounts are released. Mechanical ventilation should be used in low or enclosed places. Concentration monitors may be necessary to determine vapour concentrations in work areas prior to use of torches or other open flames, or if employees are entering enclosed areas.

Personal protective equipment

Respiratory protection: For rescue and maintenance work in storage tanks use self-contained breathing apparatus. Vapours are heavier than air and can cause suffocation by reducing oxygen available for breathing.

Hand protection: Additional protection: Wear approved gloves that are suitable for the task and have been shown to be impervious for the duration of their use.

Eye protection: Wear safety glasses with side shields. Additionally wear a face shield where the possibility exists for face contact due to splashing, spraying or airborne...
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Contact with this material.

**Skin and body protection:** Impervious clothing

**Protective measures:** When using do not smoke. Self-contained breathing apparatus (SCBA) is required if a large release occurs.

**Exposure Guidelines**

**Exposure Limit Values**

None established.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

- **Form:** Liquefied gas
- **Color:** Colourless
- **Odor:** Slight, ether-like
- **Boiling point:** -26.1 °C (-15.0 °F) at 1,013 hPa
- **% Volatile:** 100%
- **Vapour Pressure:** 6,661 hPa at 25 °C (77 °F)
- **Density:** 1.21 g/cm³ at 25 °C (77 °F) (as liquid)
- **Specific gravity:** 1.208 at 25 °C (77 °F)
- **Water solubility:** 1.5 g/l at 25 °C (77 °F) at 1,013 hPa
- **Vapour density:** 3.6 at 25°C (77°F) and 1013 hPa (Air = 1.0)
- **Evaporation rate:** > 1 (CCL4=1.0)

**SECTION 10. STABILITY AND REACTIVITY**

- **Stability:** Stable under recommended storage conditions.

- **Conditions to avoid:** The product is not flammable in air under ambient conditions of temperature
and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain conditions.

Incompatibility: Alkali metals Alkaline earth metals, Powdered metals, Powdered metal salts

Hazardous decomposition products: Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrofluoric acid and possibly carbonyl fluoride. These materials are toxic and irritating. Avoid contact with decomposition products

Hazardous reactions: Polymerization will not occur.

SECTION 11. TOXICOLOGICAL INFORMATION

1,1,2-Tetrafluoroethane (HFC-134a)

Inhalation 4 h LC50: > 567000 ppm, Rat

Inhalation No Observed Adverse Effect Concentration: 40000 ppm, Dog Cardiac sensitization

Inhalation Low Observed Adverse Effect Concentration (LOAEC): 80000 ppm, Dog Cardiac sensitization

Skin irritation: No skin irritation, Rabbit

Eye irritation: No eye irritation, Rabbit

Skin sensitization: Does not cause skin sensitisation, Guinea pig

Does not cause respiratory sensitisation, Rat

Repeated dose toxicity: Inhalation Rat

No toxicologically significant effects were found.

Carcinogenicity: Not classifiable as a human carcinogen. Overall weight of evidence indicates that the substance is not
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carcinogenic.

Mutagenicity : Animal testing did not show any mutagenic effects. Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

Reproductive toxicity : No toxicity to reproduction No effects on or via lactation Animal testing showed no reproductive toxicity.

Teratogenicity : Animal testing showed no developmental toxicity.

Further information : Cardiac sensitisation threshold limit : 334000 mg/m3

SECTION 12. ECOLOGICAL INFORMATION

Aquatic Toxicity
1,1,1,2-Tetrafluoroethane (HFC-134a)

96 h LC50 : Oncorhynchus mykiss (rainbow trout) 450 mg/l

96 h ErC50 : Algae 142 mg/l Information given is based on data obtained from similar substances.

72 h NOEC : Pseudokirchneriella subcapitata (green algae) 13.2 mg/l Information given is based on data obtained from similar substances.

48 h EC50 : Daphnia magna (Water flea) 980 mg/l

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Disposal : Can be used after re-conditioning. Recover by distillation or remove to a permitted waste disposal facility. Comply with applicable Federal, State/Provincial and Local Regulations.
Environmental Hazards : Empty pressure vessels should be returned to the supplier.

SECTION 14. TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>Mode</th>
<th>UN number</th>
<th>Proper shipping name</th>
<th>Class</th>
<th>Labelling No.</th>
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<tbody>
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<td>TDG ROAD</td>
<td>3159</td>
<td>1,1,1,2-TETRAFLUOROETHANE</td>
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<td>2.2</td>
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<td>TDG_RAIL</td>
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<td>1,1,1,2-TETRAFLUOROETHANE</td>
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<td>IATA_C</td>
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<td>1,1,1,2-Tetrafluoroethane</td>
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<td>IMDG</td>
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SECTION 15. REGULATORY INFORMATION

<table>
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<tr>
<th>Source</th>
<th>Details</th>
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<tr>
<td>DSL</td>
<td>All components of this product are on the Canadian DSL</td>
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<tr>
<td>WHMIS Class</td>
<td>A - Compressed Gas</td>
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</table>
Remarks: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

SECTION 16. OTHER INFORMATION

MSDS preparation date: 10/20/2015

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Significant change from previous version is denoted with a double bar.