SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Halotron® I
Other Identifiers: HCFC Blend B, Halotron® I Pre-Sat Base
Product Code(s): CH891/892
Model Code(s) for Extinguishers: 384, 385, 386, 394, 397, 398, 673, 674, 675
Recommended Use: Fire suppression agent, liquid concentrate.
Manufacturer: AMEREX CORPORATION
Internet Address: www.amerex-fire.com
Address: 7595 Gadsden Highway, P.O. Box 81
Trussville, AL 35173-0081
Company Telephone: (205) 655-3271
E-mail Address: info@amerex-fire.com
Emergency Contacts: Chemtrec 1(800) 424-9300 or (703) 527–3887
Revised: March 7, 2019

Section 2. HAZARDS IDENTIFICATION

GHS – Classification

<table>
<thead>
<tr>
<th>Health</th>
<th>Environmental</th>
<th>Physical</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity: None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation: None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Skin Sensitization: None</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>Eye: Category 2B</td>
<td>None</td>
<td>Warning</td>
</tr>
<tr>
<td>STOT (Single Exposure) – Category 1 (CNS, Liver); Category 2 (Heart)</td>
<td>None</td>
<td>Danger</td>
</tr>
<tr>
<td>STOT (Repeated Exposure) – Category 1 (Liver)</td>
<td>None</td>
<td>Danger</td>
</tr>
<tr>
<td>Carcinogen: None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

GHS – Label Symbol(s):

If Pressurized: Gas Under Pressure

GHS – Signal Word(s):

Warning
Danger (STOT-Single Exposure; CNS, Liver)
(STOT-Repeated Exposure; Liver)

Other Hazards Not Resulting in Classification: Hazardous to the aquatic environment (Acute);
Hazardous to the aquatic environment (Chronic)
### GHS – Hazard Phrases

<table>
<thead>
<tr>
<th>GHS Hazard</th>
<th>GHS Codes(s)</th>
<th>Code Phrase(s)</th>
</tr>
</thead>
</table>
| Physical    | H229         | *

- Contents under pressure; may explode if heated.

<table>
<thead>
<tr>
<th>Health</th>
<th>H320, 336, 370, 372</th>
<th>CAUSE EYE IRRITATION. MAY CAUSE DROWSINESS AND DIZZINESS. CAUSES DAMAGE TO ORGANS. CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>H402, 412</td>
<td>Harmful to aquatic life.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Harmful to aquatic life with long-lasting effects.</td>
</tr>
</tbody>
</table>

**Precautionary:**

**General:**

P101 If medical advice is needed, have product container or label at hand.

**Prevention:**

P260, 264, 270, 273 Do not breathe dust/fumes/gas/mist/vapours/spray. Wash skin thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment.

**Response:**

P312, 321, 304+340, 308+311, 305+351+338, 337+313

If INHALED: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Call a POISON CENTER/doctor. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing. If eye irritation persists get medical advice/attention.

**Storage:**

P402, 412, 410+403 Store in dry place. Do not expose to temperatures exceeding 50 °C/122 °F. *Protect from sunlight. Store in well-ventilated place.

**Disposal:**

P501 Dispose of contents through a licensed disposal company. Contaminated container should be disposed of as unused product.

*- If under pressure

### Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>EC No.</th>
<th>REACH Reg. No.</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>206-190-3</td>
<td>NA</td>
<td>206-190-3</td>
<td>&gt;93%</td>
</tr>
<tr>
<td>Gas Mixture (Proprietary)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>&lt;7%</td>
</tr>
</tbody>
</table>

Adverse health effects and symptoms:

Causes eye irritation. Causes eye pain, dizziness, CNS depression. Both ingredients can act as simple asphyxiants.

### Section 4. FIRST AID MEASURES

**Eye Exposure:**

Causes irritation. Rinse victim's eyes with water or normal saline solution for 10 to 15 minutes. If symptoms persist, consult a physician.

**Skin Exposure:**

Wash all affected skin areas thoroughly with soap and water. If symptoms persist, contact a physician.

**Inhalation:**

Symptoms include asphyxia, restlessness, dizziness, drowsiness; may cause cardiac arrhythmia. Remove
Section 5. FIRE-FIGHTING MEASURES

Flammable Properties: Not flammable
Flash Point: Not determined
Suitable Extinguishing Media: Use extinguishing media suitable for surrounding conditions.
Hazardous Combustion Products: There may be a release of toxic by-products, including hydrogen halides that can cause damage.

Explosion Data:
  Sensitivity to Mechanical Impact: Not sensitive
  Sensitivity to Static Discharge: Not sensitive
Unusual fire/explosion hazards: See above – Hazardous Combustion Products
Protective fire/explosion hazards:
Precautions for Firefighters: As in any fire, wear self-contained breathing apparatus (pressure-demand, NIOSH approved or equivalent), and full protective gear.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Evacuate personnel to safe areas. Ensure adequate ventilation, especially in confined areas. Monitor oxygen level.

Personal Protective Equipment: Wear self-contained breathing apparatus when entering area unless atmosphere is proved safe. Wear full-face air purifying respirator with an organic vapor, multi-purpose cartridge if monitoring shows that the oxygen level is adequate (>19.5%).

Emergency Procedures: Handle in accordance with good health and safety practices.
Methods for Containment: Stop the flow of gas or remove cylinder to outdoor location if this can be done without risk. If leak is in container or container valve, contact the appropriate emergency telephone number in Section 1 or call your closest supplier location.

Methods for Clean Up: Dam up and soak up with inert absorbent material. Place in suitable containers for disposal. Return cylinder to authorized distributor. See Section 8.

Environmental Precautions: Prevent material from entering into waterways, soil or drains.

Waste Disposal: Observe all federal, state, and local regulations for products of this type when accomplishing disposal.

Other: None

Section 7. HANDLING AND STORAGE

Personal Precautions: Use appropriate PPE when handling or maintaining equipment. Handle only in well-ventilated areas. Wash thoroughly after handling (see Section 8).

Conditions for Safe Storage/Handling: Keep product in original container or extinguisher. Prevent falling. Do not allow near heat sources. Contents may be under pressure – inspect extinguisher consistent with product labeling to ensure container integrity.

Incompatible Products: None

Hazardous Decomposition Products: During fire, there may be a release of toxic by-products, including hydrogen halides that can cause damage.

Hazardous Polymerization: Will not occur.

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>OSHA PEL</th>
<th>AIHA WEEL</th>
<th>DFG MAK *</th>
<th>EU BLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>NA</td>
<td>50 ppm</td>
<td>NA</td>
<td>NA</td>
</tr>
</tbody>
</table>

All values are 8 hour time weighted average concentrations. AIHA WEEL – American Industrial Hygiene Association, Workplace Environmental Exposure Level. NOTE: Decomposition products during fire may include hydrogen fluoride (ACGIH TLV = 0.5ppm, 2ppm Ceiling)

Engineering Controls: Showers
Eyewash stations
Ventilation systems
Personal Protective Equipment – PPE Code E:

The need for respiratory protection is not probable during short-term exposure. PPE use during production process must be independently evaluated.

Eye/Face Protection: Tightly fitting safety goggles
Skin and Body Protection: Wear protective gloves, and coveralls or long sleeve shirts.
Respiratory Protection: Not normally necessary. If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use air-purifying respirator (APR) with organic vapor canisters if exposure may exceed WEEL (50 ppm TWA). Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current safety and health requirements. The need for respiratory protection is not likely for short-term use in well ventilated areas.

Hygiene Measures: Good personal hygiene practice is essential, such as avoiding food, tobacco products, or other hand-to-mouth contact when handling. Wash thoroughly after handling.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless liquid</td>
</tr>
<tr>
<td>Molecular Weight:</td>
<td>150.7</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild, sweet</td>
</tr>
<tr>
<td>Odor Threshold:</td>
<td>No information available</td>
</tr>
<tr>
<td>Decomposition Temperature °C:</td>
<td>No information available</td>
</tr>
<tr>
<td>Freezing Point °C:</td>
<td>No information available</td>
</tr>
<tr>
<td>Initial Boiling Point °C:</td>
<td>27</td>
</tr>
<tr>
<td>Physical State:</td>
<td>Liquid</td>
</tr>
<tr>
<td>pH:</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>
Flash Point °C: None
Autoignition Temperature °C: None
Boiling Point/Range °C: 27
Melting Point/Range °C: -107
Flammability: Not Flammable
Flammability Limits in Air °C: Upper – Not Flammable; Lower-Not Flammable
Explosive Properties: None
Oxidizing Properties: None
Volatile Component (%vol): Not Applicable
Evaporation Rate: Not Applicable
Vapor Density: 6.08 kg/m3 at 25 °C
Vapor Pressure: 655 kPa at 20 °C
Specific gravity: Approximately 1.47 at 25 °C
Solubility in water: 2100-4600 mg/L; 0.39% at 25 °C
Partition Coefficient: 2.17 at 20 °C
Viscosity: No Information Available

Section 10. STABILITY AND REACTIVITY

Stability: Stable under recommended storage and handling conditions. Vapors are heavier than air and can spread along floors displacing oxygen.
Reactivity: No hazardous reactions under normal handling and storage.
Incompatibles: Alkali or alkaline earth metals, powdered metals such as Al, Zn, Be, etc, and strong bases.
Conditions to Avoid: Heat, flames, sparks.
Hazardous Decomposition Products: Gaseous hydrogen fluoride (HF), gaseous hydrogen chloride (HCl), phosgene, fluorophosgene.
Possibility of Hazardous Reactions: Hazardous decomposition products are formed under fire conditions.
Hazardous. Polymerization: Does not occur

Section 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin and eye contact.
Symptoms: Immediate: Inhalation:
Oxygen levels in the air can be reduced to 12-14%, causing loss of coordination, dizziness, increased heart rate, headache, confusion. Cardiac arrhythmia may occur.
Eyes: Irritation, may cause conjunctivitis.
Skin: Irritation.
Delayed: Symptoms appear to be relatively immediate.
Acute Toxicity:
Chronic Toxicity:
  Short-term Exposure: STOT (Single Exposure) – Narcotic effect, CNS.
  Long-term Exposure: STOT (Repeated Exposure) – Skin (defatting), liver.

### Acute Toxicity Values - Health

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50</th>
<th>LC50 (Inhalation)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Oral</td>
<td>Dermal</td>
</tr>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>32000 mg/kg</td>
<td>&gt;2000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>(rat) 4h</td>
<td>(rabbit) 4h</td>
</tr>
</tbody>
</table>

Reproductive Toxicity: None observed.

Target Organs and Effects (TOST):
  Single Exposure: Category 1 - CNS, liver. Category 2 – heart.
  Repeated Exposure: Category 1 - Liver

### Other Toxicity Categories

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Germ Cell Mutagenicity</th>
<th>Carcinogenicity</th>
<th>Reproductive</th>
<th>TOST Single Exp</th>
<th>TOST Repeated Exp</th>
<th>Aspiration</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>1 CNS, liver</td>
<td>1 Liver</td>
<td>None</td>
</tr>
</tbody>
</table>

### Section 12. ECOLOGICAL INFORMATION

Ecotoxicity: Moderate risk.
Persistence/Degradability: Persistent
Probability of rapid biodegradation: -0.0685 (Slow)
Anaerobic biodegradation probability: 0.6409 (Rapid)
Water solubility: 638.49 mg/L
Bioaccumulation factor: 15.71
Bioconcentration factor: 12.63 L/kg (Low)
Mobility in soil (Log Koc-MCI Method): 2.134
Log Octanol-Water Partition Coefficient, Log Kow (KOWWIN): 2.17
Log Koc (Kow Method): 76.37 L/kg
Log Koa (Koawin): 2.150
Log Kaw (HenryWin estimate): 0.020
Fraction sorbed to airborne particulates (Mackay model): 1.82E-009
Level III Fugacity Model: 6.53% soil, 46% water, 0.0638% sediment, 0.411% air

Other Adverse Ecological Effects: Long lasting effects to the aquatic environment (Category 3)
Aquatic Toxicity Values - Research

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Acute (LC50)</th>
<th>Chronic (LC50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>55.5 mg/L 96h Oncorhynchus mykiss (Rainbow trout)</td>
<td>No information found</td>
</tr>
<tr>
<td></td>
<td>EC50: 17.3 mg/L 48h Daphnia magna (Water flea)</td>
<td></td>
</tr>
</tbody>
</table>

Aquatic Toxicity Values – Calculated Estimates

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Acute (LC50)</th>
<th>Chronic (LC50)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Section 13. DISPOSAL CONSIDERATIONS

Safe Handling
Use appropriate PPE when handling, and wash thoroughly after handling (see Section 8).

Waste Disposal Considerations
Dispose in accordance with federal, state, and local regulations.

Contaminated Packaging
Dispose in accordance with federal, state, and local regulations.

NOTES:
This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal laws or regulations. Used product may be altered or contaminated, creating different disposal considerations.

Section 14. TRANSPORT INFORMATION

UN Number: 1956
UN Proper Shipping Name: Compressed Gas
Transport Hazard Class: 2.2
Packing Group: NA
Marine Pollutant?: NO

IATA Not regulated
DOT Not regulated

NOTES:
This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada “Transportation of Dangerous Goods” regulations. This transportation information covers the Halotron® I (CAS 306-83-2) fire extinguisher agent as shipped in bulk containers and not when contained in fire extinguishers or fire extinguisher systems.

Special Precautions for Shipping:
If shipped in a stored pressure-type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US
Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class/division is LIMITED QUANTITY when pressurized to less than 241 psig and when shipped via highway or rail. UN Class 2.2. Non-Flammable Gas, when shipping via air. Packing Group – N/A

**Section 15. REGULATORY INFORMATION**

**International Inventory Status:** All ingredients are on the following inventories

<table>
<thead>
<tr>
<th>Country(ies)</th>
<th>Agency</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States of America</td>
<td>TSCA</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>DSL</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>EINECS/ELINCS</td>
<td>Yes</td>
</tr>
<tr>
<td>Australia</td>
<td>AICS</td>
<td>Yes</td>
</tr>
<tr>
<td>Japan</td>
<td>MITI</td>
<td>Yes</td>
</tr>
<tr>
<td>South Korea</td>
<td>KECL</td>
<td>Yes</td>
</tr>
</tbody>
</table>

**REACH Title VII Restrictions:** No information available

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Dangerous Substances</th>
<th>Organic Solvents</th>
<th>Harmful Substances Whose Names Are to be Indicated on Label</th>
<th>Pollution Release and Transfer Registry (Class II)</th>
<th>Pollution Release and Transfer Registry (Class I)</th>
<th>Poison and Deleterious Substances Control Law</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying</th>
<th>ISHA – Harmful Substances Requiring Permission</th>
<th>Toxic Chemical Classification Listing (TCCL) – Toxic Chemicals</th>
<th>Toxic Release Inventory (TRI) – Group I</th>
<th>Toxic Release Inventory (TRI) – Group II</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,2-Dichloro-1,1,1-trifluoroethane</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

**European Risk and Safety phrases:**

**EU Classification:**
- N Dangerous to the environment
- Xn Harmful

**R Phrases:**
- 39 Danger of very serious irreversible effects.
- 48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- 59 Dangerous for the ozone layer.
- 68/20 Harmful: possible risk of irreversible effects through inhalation.

**S Phrases:**
- 9 Keep container in a well-ventilated place.
- 45 In case of accident or if you feel unwell, seek medical advise immediately (show label where possible).
U.S. Federal Regulatory Information:

SARA 313:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - This product is subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372. This product is is regulated under TSCA 8(a).

SARA 311/312 Hazard Categories:
- Acute Health Hazard: Yes
- Chronic Health Hazard: Yes
- Fire Hazard: No
- Sudden Release of Pressure Hazard: Yes
- Reactive Hazard: No

* - Only applicable if material is in a pressurized extinguisher.

Clean Water/Clean Air Acts:
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42). This product is regulated as a pollutant and is listed in the Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) and Section 112 of the Clean Air Act Amendments of 1990 (Destroys ozone in the upper atmosphere).

U.S. State Regulatory Information:

Chemicals in this product are covered under specific State regulations, as denoted below:

- **Alaska** - Designated Toxic and Hazardous Substances: None
- **California** – Permissible Exposure Limits for Chemical Contaminants: None
- **Florida** – Substance List: None
- **Illinois** – Toxic Substance List: None
- **Kansas** – Section 302/303 List: None
- **Massachusetts** – Substance List: None
- **Minnesota** – List of Hazardous Substances: Yes
- **Missouri** – Employer Information/Toxic Substance List: None
- **New Jersey** – Right to Know Hazardous Substance List: Yes
- **North Dakota** – List of Hazardous Chemicals, Reportable Quantities: None
- **Pennsylvania** – Hazardous Substance List: None
- **Rhode Island** – Hazardous Substance List: None
- **Texas** – Hazardous Substance List: None
- **West Virginia** – Hazardous Substance List: None
- **Wisconsin** – Toxic and Hazardous Substances: None

California Proposition 65: No
Other:
Mexico – INSQ                 Listed
Canada – WHMIS Hazard Class  Listed

Section 16. OTHER INFORMATION

This SDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format. No modifications of this SDS are authorized by AMEREX Corporation. Questions or comments should be directed to AMEREX Corporation (See Section 1).

Issuing Date                     13-February-2019
Revision Date                    7-March-2019; Revision C
Revision Notes                   None

The information herein is given in good faith but no warranty, expressed or implied, is made. Updated by William F. Garvin, CIH.