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:	V10, 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:	April 15, 2024; Revision I

Section 2. HAZARDS IDENTIFICATION

GHS – Classification

Hazard Class	Category	Signal Word
Aerosols	Category 3	Warning
Serious eye damage/eye irritation	Category	Warning
Specific target organ toxicity, single exposure, Narcotic effects	Category 3	Warning
Specific target organ toxicity, single exposure & repeated exposure	Category 1	Danger
Hazardous to the aquatic environment, acute & long-term hazard	Category 3	None

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

GHS Hazard	GHS Codes(s)	Code Phrase(s)
Physical	H229	*Pressurized container; may burst if heated.
Health	H320 336 370 372	Causes eye irritation. May cause drowsiness and dizziness. Causes damage to organs. Causes damage to organs through prolonged or repeated exposure.
Environmental	H402 412	Harmful to aquatic life. Harmful to aquatic life with long-lasting effects.
Precautionary:		
General	P101	If medical advice is needed, have product container or label at hand.
Prevention	P210 251 260 270 271 273 264+265	Keep away from heat, hot surface, sparks, open flames and other ignition sources. No smoking. Do not pierce or burn, even after use. Do not breathe dust/fumes/gas/mist/vapors/spray. Do not eat, drink, or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wash hands thoroughly after handling. Do not touch eyes.
Response	P319 321 304+340 308+316 305+351+338 337+317	Get medical help if you feel unwell. Specific treatment (see Section 4. First Aid Measures). IF INHALED: Remove person to fresh air and keep comfortable for breathing. If exposed or concerned: Get emergency medical help immediately. 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 help.
Storage	405 403+233 410+412	Store locked up. Store in a well-ventilated place. Keep container tightly closed. *Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
Disposal	P501	Dispose of contents through a licensed disposal company. Contaminated container should be disposed of as unused product.

*- Fire extinguishers are designed to be used to extinguish fires.

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC No.	REACH Reg. No.	CAS-No.	Weight %
2,2-Dichloro-1,1,1-trifluoroethane	206-190-3	NA	306-83-2	>93%
Gas Mixture (Proprietary)	NA	NA	NA	<7%

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 to fresh air. If symptoms persist, contact a physician.Give oxygen or artificial respiration as necessary.
Ingestion:	Overdose symptoms may include nausea and general weakness. Rinse mouth and throat. Do not induce vomiting. If symptoms persist, contact a physician. If the victim is convulsing or unconscious, do not give anything by mouth, ensure that the victim's airway is open and lay the victim on his/her side with the head lower than the body. DO NOT INDUCE VOMITING. Immediately transport the victim to a hospital.
Medical Conditions Possibly Aggravated by Exposure:	None

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 Equipment and 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

Chemical Name	OSHA PEL	AIHA WEEL	DFG MAK *	EU BLV
2,2-Dichloro-1,1,1-trifluoroethane	NA	50 ppm	NA	NA

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:	Wear 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 asavoiding food, tobacco products, or other hand-to- mouth contact when handling. Wash thoroughly afterhandling.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless liquid
Molecular Weight:	150.7
Odor:	Mild, sweet
Odor Threshold:	No information available
Decomposition Temperature °C:	No information available
Freezing Point °C:	No information available
Initial Boiling Point °C:	27
Physical State:	Liquid
pH:	Not Applicable
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 suchas 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 underfire 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 arrhythmiamay occur.
Eyes:	Irritation, may cause conjunctivitis.
Skin:	Irritation.
Delayed:	Symptoms appear to be relatively immediate.

Acute Toxicity: Relatively non-toxic.
Chronic Toxicity:
Short-term Exposure: STOT (Single Exposure) – Narcotic effect, CNS.
Long-term Exposure: STOT (Repeated Exposure) – Skin (defatting), Liver.

Acute Toxicity Values - Health

Chemical Name	LD50		LC50 (Inhalation)
	Oral	Dermal	
2,2-Dichloro-1,1,1-trifluoroethane	32000 mg/kg (rat) 4h	>2000 mg/kg (rabbit) >2000 mg/kg (rat)	200 g/cm^3 (rat) 4h

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

Chemical Name	Germ Cell Mutagenicity	Carcino-genicity	Repro-ductive	TOST Single Exp	TOST Repeated Exp	Aspiration
2,2-Dichloro-1,1,1-trifluoroethane	None	None	None	1 CNS, Liver 2 Heart	1 Liver	None

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
Bioaccummulation 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

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

Aquatic Toxicity Values – Calculated Estimates

Chemical Name	Acute (LC50)	Chronic (LC50)
2,2-Dichloro-1,1,1-trifluoroethane	N/A	N/A

Section 13. DISPOSAL CONSIDERATIONS

Safe Handling	Use appropriate PPE when handling and washthoroughly 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 localregulations.

Section 14. TRANSPORT INFORMATION

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

See current applicable transport regulations (DOT - Ground, IATA – Air, IMDG – Maritime) prior to shipping.

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

Country(ies)	Agency	Status
United States of America	TSCA	Yes
Canada	DSL	Yes
Europe	EINECS/ELINCS	Yes
Australia	AICS	Yes
Japan	MITI	Yes
South Korea	KECL	Yes

REACH Title VII Restrictions: No information available

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

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

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 advice immediately (show label where possible).
	37/39	Wear suitable protective clothing and eye/face protection.

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 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	15-April-2024; Revision I
Revision Notes	None

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