

MATERIAL SAFETY DATA SHEET

IDENTITY- HALOTRON™ I PRE-SAT

SECTION I. Chemical Product and Company Identification

Product Name: Halotron I
Synonym: Clean Agent
Distributor: Buckeye Fire Equipment Company
Manufacturer: Halotron Inc.
3770 Howard Hughes Parkway #300
Las Vegas, NV 89109
Telephone: 702.735.2200
Emergency: CHEMTREC 1.800.424.9300

Revision Date: 07/19/04

SECTION II. Hazard Identification and Emergency Overview

Emergency Overview: Colorless highly volatile liquid with a slightly sweet, ether-like odor.

Adverse Health Effects and Symptoms: Central nervous system depression at 0.5% in air. Heartbeat irregularities above 2% concentration in air-may be fatal. Also is an eye irritant. Effects of prolonged skin exposure include defatting and frostbite.

Exposure Guidelines:

	<u>OSHA PEL</u>	<u>ACGIH TLV</u>
2,2-dichloro-1,1,1-trifluoroethane	Not regulated	Not regulated
Proprietary ingredients	Not regulated	Not regulated

Hazard Symbols:

HMIS RATINGS:

Health 1
Flammability 0
Reactivity 0

Personal Protective Equipment: Appropriate respirator above exposure limits and eye protection.
(See Section 8)

WHMIS (Canadian Workplace Hazardous Materials Identification)

Compressed gas
High concentration may cause asphyxiation
May produce irritating fumes
Use dilution ventilation in confined areas

SECTION III. Composition/Information on Ingredients

	<u>Weight %*</u>	<u>CAS #</u>
2,2-dichloro-1,1,1-trifluoroethane	> 93	306-83-2
Proprietary gas mixture	< 7	N/A

* % is rounded to the nearest appropriate number. Values are not to be considered product specifications

SECTION IV. First Aid Measures

Eye Exposure: Irrigate eyes at eye wash station and repeat for 15 minutes or until pain free. Seek medical attention if irritation develops or persists, or if vision changes occur.

Skin Exposure: In cases of repeated contact, wash with plenty of soap and water. Use a skin moisturizer. Seek medical attention if irritation develops or persists.

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Inhalation: If respiratory irritation or distress occurs, move victim to fresh air. Administer artificial respiration if breathing stops. Qualified personnel may administer oxygen. DO NOT administer epinephrine. Seek medical attention if irritation develops or persists.

Ingestion: Do not induce vomiting or administer stimulants. Seek medical attention. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on their side with head lower than waist. If vomiting occurs and the victim is conscious, administer water to further dilute the chemical.

Medical conditions possibly aggravated by exposure: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, and bronchitis. Skin contact may aggravate existing skin diseases.

SECTION V. Firefighting Measures

Extinguishing Media: N/A. This product is an extinguishing agent. At normal pressure and temperature this product is nonflammable and noncombustible.

Unusual Fire and Explosion Hazards: When heated by fire this product may decompose, releasing hydrochloric acid and hydrofluoric acid (See Section X).

Sensitivity to Mechanical Impact or Static Discharge: None

SECTION VI. Accidental Release Measures

In case of accidental release of large amounts into a confined area that would exceed 2% at 120°F, evacuate and ventilate. Product will produce large volumes of heavier than air vapor. Responders need self-contained breathing apparatus or supplied air respirator level of respiratory protection (See Section VIII). Large spills (cylinders of 250 lbs. or more) should be addressed by hazardous materials technicians following a site-specific emergency response plan and trained in the appropriate use of personal protection equipment. Prevent material from entering surface or ground water. Keep containers away from heat sources that might cause rupture since these containers are under pressure. Dike spill area then use absorbents or pump product directly into drums. Handle and dispose of as a hazardous waste unless testing indicates otherwise. Clean spill area with wet vac and decontaminate with detergent and water. If product is used and /or contaminated, use personal protection equipment and containment appropriate to the nature of the mixture.

SECTION VII. Handling and Storage

Avoid eye, respiratory, and skin exposure. Use the appropriate exposure controls (proper ventilation, etc.) when performing maintenance on extinguishers. Wash thoroughly after handling (See Section VIII). Keep product in the original container or extinguisher. Containers are under pressure and present significant safety hazards. Periodically inspect the container for rust, damage, or any other condition that may compromise the container's integrity. Do not mix with any other extinguishing agents.

SECTION VIII. Exposure Controls and Personal Protection

Use adequate ventilation to prevent unacceptable concentration levels noted in Section II.

Respiratory Protection: For extended periods of exposure at concentrations above 50 ppm (over 30 minutes), use an air-purifying respirator or powered air-purifying respirator with organic vapor cartridges or canisters. For levels above 2000 ppm, use supplied air respirators or self-contained breathing apparatus.

Eye Protection: Wear chemical goggles whenever the potential for eye exposure exists.

Skin Protection: If product is expected to contact the skin, use neoprene, PVC, or PVA gloves and coveralls. Good personal hygiene practices are essential. Avoid food, tobacco products, or other hand-to-mouth contact after handling the product until thorough washing has been completed.

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SECTION IX. Physical and Chemical Properties

Appearance and Odor: Colorless liquid under 81°F with a slightly sweet, ether-like odor.

Specific Gravity: ~ 1.48 (liquid)

Vapor Density: 5.3

Solubility: 0.39% by weight @ 25°C

Flash Point: None

Flammability: nonflammable

Boiling Point @ 1 atm: 81°F

pH: neutral

SECTION X. Stability and Reactivity

Stability: Stable

Incompatibles: Oxidizers and powdered or abraded aluminum will cause a reaction that generates heat. Also reacts with alkali and alkaline earth metals.

Decomposition Products: Heat of fire may release hydrochloric acid, hydrofluoric acid, and carbonyl halides.

Hazardous Reactions: None

SECTION XI. Toxicological Information

Acute Toxicity: 2,2-dichloro-1,1,1-trifluoroethane

LC₅₀ – 4 hour (rat): 3.2% in air

Approximate lethal dose, oral (human): 9g/kg body weight

Cardiac sensitization threshold (dog): ~ 2,1% in air

Lowest Observed Adverse Effect Level: 2% in air

Target organs in humans: Heart (acute), liver (chronic). This product is an irritant to the eyes, and causes defatting of the skin that can lead to contact dermatitis.

Chronic Toxicity: A 3 week study of 6 hours/day, 7 days/week exposure of guinea pigs, dogs, and monkeys via inhalation of 1000 ppm, induced mild liver damage with altered enzyme levels. A 2-year study of 6 hours/day and 5 days/week exposure of rats via inhalation of 300 ppm induced benign testicular and liver tumor formation; 1000 ppm induced benign pancreatic tumor formation, weight loss, retinal atrophy, and increased urinary fluoride levels. This product's ingredients are not considered as probable or suspected carcinogens by OSHA, IARC, or ACGIH.

Reproductive Toxicity: Two-generation inhalation reproductive study on rats showed no negative effects other than weight loss. Teratology testing was negative on rats and rabbits @ 5,000 and 10,000 ppm.

SECTION XII. Ecological Information

Ecotoxicity: Negative effects on vegetation. Daphnia Magna LC₅₀ = 17.3 mg/L.

Rainbow Trout LC₅₀ = 55.5 mg/L. Green Algae LC₅₀ = 96.6 mg/L

Octanol water partition coefficient (est): Log P_{ow} = 2.0 – 2.8

Persistence/Degradability: Degrades very slowly.

Bioaccumulation: Extent unknown

Mobility in Soil: Unknown

SECTION XIII. Considerations for Disposal

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 regulations. Used product may be altered or contaminated, creating different disposal considerations.

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SECTION XIV. Transportation Information

This product is hazardous as defined by U.S. Department of Transportation 49 CFR 172, and dangerous goods as defined by Transport Canada "Transportation of Dangerous Goods" regulations.

Proper Shipping Name: Compressed Gases, N.O.S. (contains tetrafluoromethane, argon)

Hazard Class Number and Description: 2.2 (non-flammable gas)

IMCO Class: 2.2

Packing Group: N/A

DOT Label Required: Nonflammable Gas

SECTION XV. Regulatory Information

International Inventory Status: All ingredients are on the following inventories

<u>Country</u>	<u>Agency</u>
U.S.A.	TSCA
Canada	DSL
Europe	EINECS/ELINCS
South Korea	KECL

U.S. Federal Regulatory Information:

2,2-dichloro-1,1,1-trifluoroethane is subject to the SARA reporting requirements under EPCRA Section 313 (40 CFR Part 372). This product is subject to the inventory update rule under TSCA 8(a). This product has no ingredients with SARA Threshold Planning Quantities or CERCLA Reportable Quantities.

State Regulatory Information:

Chemicals in this product are covered under the specific State regulations noted:

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- None
Missouri	Employer Information/Toxic Substance List- None
New Jersey	Right to Know Hazardous Substance List- None
North Dakota	List of Hazardous Chemicals, Reportable Quantities- None
Pennsylvania	Hazardous Substance List- None
Rhode Island	Hazardous Substance List- None
Texas	Hazardous Substance List- No
West Virginia	Hazardous Substance List- None
Wisconsin	Toxic and Hazardous Substances- None

California Proposition 65- No component is listed on the California Proposition 65 List

SECTION XVI. Other Information

This MSDS conforms to the requirements under U.S. and Canadian Regulations or Standards. It conforms to the proposed 2003 ANSI Z400.1 format.

The information contained herein is given in good faith as typical values and not as product specifications. No warranty, either expressed or implied, is hereby made.