

SAFETY DATA SHEET HALOTRON™ I PRE-SAT

SECTION I. Chemical Product and Company Identification

Product Name: Halotron I
Synonym: Clean Agent
Distributor: Buckeye Fire Equipment Company
Address: 110 Kings Road
Kings Mountain, NC 28086
Telephone: 704-739-7415
Web Address: www.buckeyefire.com
Manufacturer: American Pacific Corporation, Halotron Division
10622 West 6400 North
Cedar City, UT 84721
Telephone: 435-865-5000
Fax: 435-865-5005
Email: sds@apfc.com
Recommended Use: Fire suppression, not for human or animal drug use.
Emergency: CHEMTREC 1.800.424.9300, Customer Number CCN21187
Revision Date: 05/2015

SECTION II. Hazard Identification

GHS – Classification

GHS Label Elements:

Hazard Symbols:  
Signal Word: WARNING

Hazard Statements:

H280 Contain gas under pressure; may explode if heated.
H336 May cause drowsiness and dizziness.

Precautionary Statements:

P261 Avoid breathing vapors/spray.
P271 Use only outdoors or in a well-ventilated area.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER or a doctor/physician if you feel unwell.
P403+P223 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P501 Dispose of contents/container to an approved waste disposal plant.

Information pertaining to particular dangers for man and environment: Inhalation of high concentrations of vapor may cause central nervous system effects such as dizziness, drowsiness, anesthesia, or unconsciousness. When used on a fire, hazardous decomposition products are formed, but typically are within safe emergency exposure limits. Misuse or intentional inhalation abuse may lead to death without warning.

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

SAFETY DATA SHEET

HALOTRON™ I PRE-SAT

SECTION IV. First Aid Measures

<i>Routes of Exposure</i>	<i>Sign and Symptoms of Exposure</i>	<i>Emergency and First-Aid Procedures</i>
Skin:	Evaporative cooling can result in chilling sensations or frostbite effects. Short exposures, such as when filling equipment or in other situations, should not have a lasting effect.	Wash exposed area with water. If irritation develops and persists, call a physician.
Inhalation:	Significant exposure may cause central nervous system effects such as dizziness, drowsiness, anesthesia, or unconsciousness. High concentrations of 20,000 ppm (v/v) or higher, may cause cardiac arrhythmia.	Remove to fresh air. Oxygen or artificial respiration if necessary. Call a physician if breathing difficulties occur.
Ingestion:	Not likely to occur in industrial use. Highly volatile liquid.	Clean mouth with water and drink plenty of water. Do not induce vomiting. If vomiting occurs, lean person forward to reduce risk of aspiration. Call a physician.
Eyes:	Irritation and tearing may result. Mild to moderate reversible eye effects.	Rinse thoroughly with plenty of water, also under eyelids. If eye irritation persists, consult a specialist.

Description of the most important symptoms or effects: Halotron I is a colorless volatile, pressurized liquid with a slight ether-like odor. As with any chemical, dose and exposure are critically important variables to understand any potential treatment. Short-term exposure to high concentrations may result in central nervous system and cardiac effects. Long-term exposure to concentrations above those time-weighted averages recommended herein may result in liver effects.

Note to physician: This material may make the heart more susceptible to arrhythmias. Catecholamines such as adrenaline, and other compounds having similar effects, should be reserved for emergencies then used only with special caution.

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.

Special firefighting precautions/instructions: Ensure that the area where the fire occurred is well ventilated before re-entering. Wear protective clothing. Use water spray or fog to cool storage containers to help prevent an uncontrolled pressure release.

Unusual Fire and Explosion Hazards: The concentrated agent when applied to fire can produce toxic by-products specifically hydrogen halides, which can cause damage. Avoid inhalation of these materials by evacuating and ventilating the area.

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. 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. For further information, please contact supplier.

SAFETY DATA SHEET

HALOTRON™ I PRE-SAT

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. 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. For further information, please contact supplier.

SECTION VIII. Exposure Controls and Personal Protection

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

Use adequate ventilation to minimize exposure levels.

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.

SECTION IX. Physical and Chemical Properties

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

Specific Gravity: ~ 1.47 at 25° C

Solubility: 0.39% by weight @ 25° C

Flash Point: None

Flammability: nonflammable

Boiling Point @ 1 atm: 27° C

pH: N/A

Relative Density, air =1: 5.1

Vapor Pressure at: 655 kPa at 20° C

Vapor Density: 6.08 kg/m³ at 25° C

Evaporation Rate: Faster than water, slower than ether.

Liquid Density: 1.48 kg/l at 25° C

SECTION X. Stability and Reactivity

Reactivity: Decomposes on heating.

Chemical Stability: Normally stable (will decompose if exposed to a high radiant heat source, such as fire.) The material is intended for use as a fire extinguishant.

Incompatibles: Incompatible with alkali or alkaline earth metals, and powdered metals Al, ZN, Be, etc.

Hazardous Decomposition Products: Decomposition products are hazardous. This material can be decomposed by high temperatures (open flames, glowing metal surfaces, etc.) forming hydrochloric and hydrofluoric acids, and possibly carbonyl halide.

Hazardous Polymerization: Will not occur.

SAFETY DATA SHEET

HALOTRON™ I PRE-SAT

SECTION XI. Toxicological Information

Toxicological Information: Acute Toxicity is low.

For 2,2-dichloro-1,1,1-trifluoroethane (CAS # 306-83-2):

LC50 (4 hr.): 3.2% (32,000 ppm), (Inhalation)

Oral Approximate Lethal Dose (ALD): 9 g/kg (body weight)

Cardiotoxic LOAEL (Lowest Observed Adverse Effect Level): 2% vol.

Cardiotoxic NOAEL (No Observed Adverse Effect Level): 1% vol.

Toxicological testing was performed on HCFC-123 by the Program for Alternative Fluorocarbon Testing (PAFT). Data from acute toxicity studies in this program demonstrated that HCFC-123 has very low toxicity by skin application or inhalation.

For the proprietary gas mixture: The toxic effects of the proprietary gas mixture in the absence of extreme temperature are primarily its ability to function as a simple asphyxiant (i.e. displace oxygen).

Other Toxicity Information:

Animal Studies: For 2,2-dichloro-1,1,1-trifluoroethane (CAS #306-83-2): Long-term exposure in a two year study (6 hours/day, 5 days/week) at concentrations of 300, 1000 and 5000 ppm decreased body weight, serum cholesterol, triglycerides and glucose, and increased urinary fluoride concentrations in rats. However, survival was significantly improved in all exposed groups compared to control animals. Inhalation of 300, 1000 and 5000 ppm caused an increase in benign tumors of the liver, pancreas, and testis. Tumors occurred late in life and none were assessed to be life threatening. Tumor formation is thought to occur through non-genotoxic mechanisms associated with a peroxisome proliferating potential or with hormonal disturbances in older rats.

Exposure to dogs, guinea pigs or monkeys at 1000 ppm or greater for 6 hours per day, 7 days per week, for a total of 3 weeks, induced slight or mild liver damage with altered enzyme levels. Rodent studies indicate HCFC-123 is easily absorbed via inhalation. It distributes in all organs, more so in the liver. About 90% of inhaled HCFC-123 is eliminated via the lungs unchanged. The remaining amount is metabolized to trifluoroacetic acid and excreted in the urine. Small amounts of trifluoroacetylated proteins were detected in rats in laboratory studies.

HCFC-123 did not affect reproductive performance in rats or harm the unborn animals in rats or rabbits at 5000 and 10,000 ppm.

HCFC-123 was inactive in several test-tube genetic damage studies except the human lymphocyte chromosome aberration assay. HCFC-123 is also inactive in live animal genetic damage studies. Therefore, it is not considered genotoxic.

Carcinogen: IARC: no NTP: no OSHA: no

SECTION XII. Ecological Information

Aquatic toxicity:

2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)

96 h LC50: *Oncorhynchus mykiss* (rainbow trout) 55.5 mg/l

96 h ErC50: *Pseudokirchneriella subcapitata* (green algae) 96.6 mg/l

96 h EbC50: *Pseudokirchneriella subcapitata* (green algae) 67.8 mg/l

48 h EC50: *Daphnia magna* (Water flea) 17.3 mg/l

Environmental Fate:

2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)

Biodegradability: 24%, not readily biodegradable

Bioaccumulation: Bio-concentration factor (BCF): 33, Bioaccumulation is unlikely

The material is a mixture of volatile organic compounds (although exempted from reporting as a VOC under U.S. regulation 40 CFR Part 51.100(s)) and should not be permitted to be mixed with ground or drinking water and should be handled, used, and disposed responsibly in accordance with regulations in the Country, Province, State, County, and locality where it is used.

SAFETY DATA SHEET

HALOTRON™ I PRE-SAT

SECTION XIII. Disposal Considerations

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.

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.

Note: When used as an extinguishing agent in a stored pressure fire extinguisher the packaging shall be identified with the proper shipping name and the UN Identification Number as noted below.

The proper shipping name shall be Fire Extinguisher and the UN Identification Number is UN 1044. The USDOT hazard class is Limited Quantity when pressurized to less than 241 psig and when shipped via highway or rail. Use Class 2.2, Non-Flammable Gas, when shipping via air.

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

HCFC-123 is listed under EINECS EC Number 206-190-3 for Immediate Use Only.

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

SAFETY DATA SHEET

HALOTRON™ I PRE-SAT

SECTION XVI. Other Information

This Safety Data Sheet prepared in accordance with OSHA's Hazard Communication Standard (29 CFR 1910.1200) and the Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

HMIS RATINGS:

Health 1
Flammability 0
Reactivity 1

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

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.