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**1. IDENTIFICATION**

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<b>Product Name</b>	Halotron-1 (Fire Extinguishing Agent with Expellant)
<b>Other Names</b>	HCFC Blend B, Halocarbon Agent
<b>Recommended use of the chemical and restrictions on use</b>	
<b>Identified uses</b>	Fire Extinguishing Agent
<b>Restrictions on use</b>	Consult applicable fire protection codes
<b>Company Identification</b>	Kidde Residential & Commercial 1016 Corporate Park Drive Mebane, NC 27302 USA
<b>Customer Information Number</b>	(919) 563-5911 (919) 304-8200
<b>Emergency Telephone Number</b>	
<b>CHEMTREC Number</b>	(800) 424-9300 (703) 527-3887 (International)
<b>Issue Date</b>	April 10, 2015
<b>Supersedes Date</b>	February 9, 2015

*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)*

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**2. HAZARD IDENTIFICATION**

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**Hazard Classification**

Gas under pressure – liquefied gas  
Simple Asphyxiant  
Specific Target Organ Toxicity Single Exposure – Category 2  
Specific Target Organ Toxicity Repeat Exposure – Category 2

**Label Elements**

Hazard Symbols



Signal Word: Warning

**Hazard Statements**

Contents under pressure; may explode if heated.  
May displace oxygen and cause rapid suffocation.  
May cause damage to organs (liver, central nervous system) through inhalation.  
May cause damage to organs (liver) through prolonged or repeated exposure (inhalation).



# SAFETY DATA SHEET

## Halotron-1 (Fire Extinguishing Agent with Expellant)

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### 2. HAZARD IDENTIFICATION

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#### Precautionary Statements

##### Prevention

Do not enter confined space unless adequately ventilated.  
In case of inadequate ventilation wear respiratory protection.  
Do not breathe fume/gas/mist/vapors/spray.  
Wash hands thoroughly after handling.  
Do not eat, drink or smoke when using this product.

##### Response

Get medical advice/attention if you feel unwell.  
If exposed or concerned: Call a poison center or doctor.

##### Storage

Keep container tightly closed.  
Protect from sunlight and store in well-ventilated place.  
Store locked up.

##### Disposal

Dispose of contents/container in accordance with local and national regulations.

#### Other Hazards

Direct contact with the cold gas or liquid can cause freezing of exposed tissues. Avoid direct inhalation of undiluted gas. Can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations can cause dizziness, shortness of breath, unconsciousness or asphyxiation.

#### Specific Concentration Limits

The values listed below represent the percentages of ingredients of unknown toxicity.

Acute oral toxicity	1 – 10%
Acute dermal toxicity	1 – 10%
Acute inhalation toxicity	1 – 10%
Acute aquatic toxicity	1 – 10%

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Synonyms:** HCFC Blend B, Halocarbon Agent  
This product is a mixture.

Component	CAS Number	Concentration
2,2-dichloro-1,1,1-trifluoroethane	306-83-2	85 – 95%
Proprietary gas mixture	NA	1 – 10%

**Note:** The expellant is argon.

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### 4. FIRST- AID MEASURES

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#### Description of necessary first-aid measures

##### Eyes

Immediately flood the eye with plenty of warm water for at least 15 minutes, holding the eye open. Obtain medical attention if soreness or redness persists.

##### Skin

Flush with water. Obtain medical attention if frostbite or blistering occurs or redness persists.

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**4. FIRST- AID MEASURES**

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**Ingestion**

Ingestion is not considered a potential route of exposure.

**Inhalation**

Remove from exposure. If there is difficulty in breathing, give oxygen. Obtain medical attention immediately.

**Most important symptoms/effects, acute and delayed**

Aside from the information found under Description of necessary first aid measures (above) and Indication of immediate medical attention and special treatment needed, no additional symptoms and effects are anticipated.

**Indication of immediate medical attention and special treatment needed**

**Notes to Physicians**

In case of frostbite, place the frostbitten part in warm water. If warm water is not available or impractical to use, wrap the affected parts gently in blankets. DO NOT USE HOT WATER.

The use of catecholamines such as adrenaline, or similar compounds can increase susceptibility to heart irregularities caused by excessive exposure to these types of compounds.

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**5. FIRE - FIGHTING MEASURES**

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**Suitable Extinguishing Media**

Halotron-1 is used as an extinguishing agent and therefore is not a problem when trying to control a fire. Use extinguishing agent appropriate to other materials involved. Keep containers and surroundings cool with water spray as containers may rupture or burst in the heat of a fire. 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.

**Specific hazards arising from the chemical**

Containers may explode in heat of fire.

**Special Protective Actions for Fire-Fighters**

Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

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**6. ACCIDENTAL RELEASE MEASURES**

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**Personal precautions, protective equipment and emergency procedures**

Remove leaking cylinder to a safe place. Ventilate the area. Vapors can accumulate in low areas. Leaks inside confined spaces may cause suffocation as oxygen is displaced and should not be entered without a self-contained breathing apparatus.

Manufacturer's Recommended 1 Hr. Emergency Exposure Limit: 1000ppm (v/v)

Manufacturer's Recommended 1 Min. Emergency Exposure Limit: 2500ppm (v/v)

**Environmental Precautions**

None

**Methods and materials for containment and cleaning up**

None



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### 7. HANDLING AND STORAGE

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#### Precautions for safe handling

Wear appropriate protective clothing. Prevent skin and eye contact.

#### Conditions for safe storage

Pressurized containers should be properly stored and secured to prevent falling or being knocked over. Do not drag, slide or roll pressurized containers. Do not drop pressurized containers or permit them to strike against each other. Never apply flame or localized heat directly to any part of the pressurized or plastic container. Store pressurized containers away from high heat sources. Storage area should be: - cool - dry - well ventilated - under cover - out of direct sunlight

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### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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#### Control parameters

Exposure limits are listed below, if they exist.

#### Workplace Environmental Exposure Level (chronic handling)

WEEL(AIHA)(8 hrs): 50 ppm (v/v), based on the primary component

Manufacturer's Recommended 1 Hr. Emergency Exposure Limit: 1000ppm (v/v)

Manufacturer's Recommended 1 Min. Emergency Exposure Limit: 2500ppm (v/v)

#### Exposure Level When Using Halotron I in a Fire Extinguisher

Exposure when using this material as a fire extinguishing agent - the exposure should not exceed 20,000 ppm (v/v). Guidelines for the safe minimum volume when this agent is used in a confined space are provided on the label of the extinguisher.

#### Appropriate engineering controls

Use with adequate ventilation. There should be local procedures for the selection, training, inspection and maintenance of this equipment. When used in large volumes or odor becomes apparent, use local exhaust ventilation.

#### Individual protection measures

##### Respiratory Protection

Not normally required under conditions of use as a portable fire extinguisher. In oxygen deficient atmospheres, use a self contained breathing apparatus, as an air purifying respirator will not provide protection.

##### Skin Protection

Neoprene, PVC or PVA gloves

##### Eye/Face Protection

Chemical goggles or safety glasses with side shields.

##### Body Protection

Normal work wear.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

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#### Agent – Halotron-1

##### Appearance

Physical State	Liquefied gas under pressure
Color	Colorless
Odor	Slight ether-like
Odor Threshold	No data available

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>pH</b>	Not applicable
<b>Relative Density (Air = 1)</b>	5.14
<b>Liquid Density</b>	92.3 lb/ft <sup>3</sup> @ 77 °F 1.48 kg/l @ 25°C
<b>Gas Density</b>	~ 0.385 lb/ft <sup>3</sup> ~6.17 kg/m <sup>3</sup>
<b>Boiling Range/Point (°C/F)</b>	27°C/80.6°F
<b>Melting Point (°C/F)</b>	No data available
<b>Flash Point (PMCC) (°C/F)</b>	Not flammable
<b>Vapor Pressure of liquid</b>	~ 11.2 psig @ 68°F 77 kPa @ 20°C
<b>Evaporation Rate (BuAc=1)</b>	Faster than water, slower than ether
<b>Solubility in Water</b>	0.39% wt @25°C/ 77°F, 1 atm.
<b>Vapor Density (Air = 1)</b>	No data available
<b>VOC (%)</b>	No data available
<b>Partition coefficient (n-octanol/water)</b>	No data available
<b>Viscosity</b>	Not applicable
<b>Auto-ignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Upper explosive limit</b>	No data available
<b>Lower explosive limit</b>	No data available
<b>Flammability (solid, gas)</b>	Not flammable

**Expellant - Argon**

**Appearance**

<b>Physical State</b>	Compressed gas
<b>Color</b>	Colorless
<b>Odor</b>	None
<b>Odor Threshold</b>	No data available
<b>pH</b>	Not applicable
<b>Specific Gravity</b>	No data available
<b>Boiling Range/Point (°C/F)</b>	No data available
<b>Melting Point (°C/F)</b>	No data available
<b>Flash Point (PMCC) (°C/F)</b>	Not flammable
<b>Vapor Pressure</b>	No data available
<b>Evaporation Rate (BuAc=1)</b>	No data available
<b>Solubility in Water</b>	No data available
<b>Vapor Density (Air = 1)</b>	Not applicable
<b>VOC (g/l)</b>	None
<b>VOC (%)</b>	None
<b>Partition coefficient (n-octanol/water)</b>	No data available
<b>Viscosity</b>	Not applicable
<b>Auto-ignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Upper explosive limit</b>	Not explosive
<b>Lower explosive limit</b>	Not explosive
<b>Flammability (solid, gas)</b>	Not flammable

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**10. STABILITY AND REACTIVITY**

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**Reactivity**

Containers may rupture or explode if exposed to heat.

**Chemical Stability**

Stable under normal conditions.

**Possibility of hazardous reactions**

Hazardous polymerization will not occur.

**Conditions to Avoid**

Extremely high temperatures - flames

**Incompatible Materials**

Incompatible with alkali or alkaline earth metals, and powdered metals Al, Zn, Be, etc.

**Hazardous Decomposition Products**

Hydrochloric and hydrofluoric acids - possibly carbonyl halides

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**11. TOXICOLOGICAL INFORMATION**

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**Acute Toxicity**

2,2-dichloro-1,1,1-trifluoroethane

Simple asphyxiant

Inhalation 4 hour, LC50(rat) 32,000 ppm

Oral Approximate Lethal Dose, rat: 9000 mg/kg

Dermal Approximate Lethal Dose, rat: >2000 mg/kg

Cardiac LOAEL: 2% vol.

Cardiac NOAEL: 1% vol.

Argon

Simple asphyxiant

**Specific Target Organ Toxicity (STOT) – single exposure**

2,2-dichloro-1,1,1-trifluoroethane: Adverse effects to the liver and central nervous system were observed in animal studies (inhalation.)

Argon: Exposure to argon gas at high concentrations can cause suffocation by reducing oxygen available for breathing. Breathing very high concentrations can cause dizziness, shortness of breath, unconsciousness or asphyxiation.

**Specific Target Organ Toxicity (STOT) – repeat exposure**

2,2-dichloro-1,1,1-trifluoroethane: Adverse effects to the liver were observed in animal studies (inhalation.)

**Serious Eye damage/Irritation**

2,2-dichloro-1,1,1-trifluoroethane: In rabbit study, mild to moderate conjunctival irritation with no corneal or iritic involvement was observed in an unwashed rabbit eye. An eye dosed with the test substance and promptly washed had mild to slight transient corneal opacity and mild to moderate conjunctival irritation with no iritic involvement. Both eyes were normal within 3-7 days.

**Skin Corrosion/Irritation**

2,2-dichloro-1,1,1-trifluoroethane: Dermal exposure in rabbits did not result in any irritation.

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**11. TOXICOLOGICAL INFORMATION**

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**Respiratory or Skin Sensitization**

No relevant studies identified.

**Carcinogenicity**

Not considered carcinogenic by NTP, IARC, and OSHA.

**Germ Cell Mutagenicity**

2,2-dichloro-1,1,1-trifluoroethane: Not considered genotoxic based on animal and test-tube studies.

**Reproductive Toxicity**

2,2-dichloro-1,1,1-trifluoroethane: No affects to reproductive performance were seen in rats or harm to the unborn animals in rats or rabbits at 5000 and 10,000ppm

**Aspiration Hazard**

Not an aspiration hazard.

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**12. ECOLOGICAL INFORMATION**

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**Ecotoxicity**

2,2-dichloro-1,1,1-trifluoroethane  
LC50 Fathead minnow 77mg/l 96hr

**Mobility in soil**

No relevant studies identified.

**Persistence/Degradability**

No relevant studies identified.

**Bioaccumulative Potential**

No relevant studies identified.

**Other adverse effects**

No relevant studies identified.

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**13. DISPOSAL CONSIDERATIONS**

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**Disposal Methods**

Dispose of container in accordance with all applicable local and national regulations. Do not cut puncture or weld on or near to the container. If spilled, contents will vaporize to the atmosphere.

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**14. TRANSPORT INFORMATION**

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Safety Data Sheet information is intended to address a specific material and not various forms or states of containment. Specific volumes, pressures or hardware configurations containing such materials can dictate various different hazard classifications for transportation and labelling requirements. Under Federal Regulations only trained and qualified individuals are permitted to label and ship products following the applicable Department of Transportation (DOT), Federal Aviation Administration (FAA), Transport Canada (TC), International Maritime Dangerous Goods (IMDG) or International Air Transport Association (IATA) requirements.



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**15. REGULATORY INFORMATION**

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**United States TSCA Inventory**

All components of this product are in compliance with the inventory listing requirements of the US Toxic Substance Control Act (TSCA) Chemical Substance Inventory.

**Canada DSL Inventory**

All ingredients in this product have been verified for inclusion on the Domestic Substance List (DSL).

**SARA Title III Sect. 311/312 Categorization**

Immediate (Acute) Health Hazard, Delayed(Chronic) Health Hazard, Pressure hazard

**SARA Title III Sect. 313**

This product contains a chemical which is listed in Section 313 at or above de minimis concentrations: 2,2-dichloro-1,1,1-trifluoroethane (306-83-2)

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**16. OTHER INFORMATION**

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**NFPA Ratings**

NFPA Code for Health - 1  
NFPA Code for Flammability - 0  
NFPA Code for Reactivity - 1  
NFPA Code for Special Hazards – None

**HMIS Ratings**

HMIS Code for Health - 1\*  
HMIS Code for Flammability - 0  
HMIS Code for Physical Hazard - 1  
HMIS Code for Personal Protection - See Section 8  
\*Chronic

**Legend**

ACGIH: American Conference of Governmental Industrial Hygienists  
CAS: Chemical Abstracts Service  
IARC: International Agency for Research on Cancer  
LCLo: Lethal concentration low  
N/A: Denotes no applicable information found or available  
NTP: National Toxicology Program  
OSHA: Occupational Safety and Health Administration  
PEL: Permissible Exposure Limit  
SDS: Safety Data Sheet  
STEL: Short Term Exposure Limit  
TLV: Threshold Limit Value

Revision Date: April 10, 2015  
Replaces: February 9, 2015  
Changes made: Updated to GHS Classification.

**Information Source and References**

This SDS is prepared by Hazard Communication Specialists based on information provided by internal company references.



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**(Fire Extinguishing Agent with Expellant)**

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**16. OTHER INFORMATION**

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**Prepared By:** EnviroNet LLC.

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