MATERIAL SAFETY DATA SHEET
FM-200 (Fire Extinguishing Agent)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATIONS AND OF THE COMPANY UNDERTAKING

<table>
<thead>
<tr>
<th>Product Name</th>
<th>FM-200 (Fire Extinguishing Agent)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other Trade Names</td>
<td>Heptafluoropropane, HFC-227ea</td>
</tr>
<tr>
<td>Product Description</td>
<td>Fire Extinguishing Agent</td>
</tr>
<tr>
<td>Manufacturer/Supplier</td>
<td>Kidde – Residential and Commercial</td>
</tr>
<tr>
<td>Address</td>
<td>1016 Corporate Park Drive</td>
</tr>
<tr>
<td></td>
<td>Mebane, NC  27302</td>
</tr>
<tr>
<td></td>
<td>USA</td>
</tr>
<tr>
<td>Phone Number</td>
<td>(919) 563-5911</td>
</tr>
<tr>
<td></td>
<td>(919) 304-8200</td>
</tr>
<tr>
<td>Chemtrec Number</td>
<td>(800) 424-9300</td>
</tr>
<tr>
<td>(for emergencies only)</td>
<td>(703) 527-3887 (International)</td>
</tr>
<tr>
<td>Revision Date:</td>
<td>February 9, 2009</td>
</tr>
<tr>
<td>MSDS Date:</td>
<td>January 15, 2007</td>
</tr>
</tbody>
</table>

Safety Data Sheet according to EC directive 2001/59/EC and OSHA’s Hazcom Standard (29 CFR 1910.1200)

2. HAZARDS IDENTIFICATION

<table>
<thead>
<tr>
<th>EU Main Hazards</th>
<th>Non Flammable Gas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Routes of Entry</td>
<td></td>
</tr>
<tr>
<td>- Eye contact  - Inhalation - Skin contact</td>
<td></td>
</tr>
<tr>
<td>Carcinogenic Status</td>
<td>Not considered carcinogenic by NTP, IARC, and OSHA.</td>
</tr>
<tr>
<td>Target Organs</td>
<td>Respiratory System - Skin - Eye - Cardiovascular System - Central Nervous System</td>
</tr>
<tr>
<td>Health Effects - Eyes</td>
<td>Direct contact with the cold gas or liquid can cause freezing of exposed tissues, with pain, redness, burns and corneal damage.</td>
</tr>
<tr>
<td>Health Effects - Skin</td>
<td>Direct contact with the cold gas or liquid can cause freezing of exposed tissues.</td>
</tr>
<tr>
<td>Health Effects - Ingestion</td>
<td>Ingestion is not a possible route of exposure.</td>
</tr>
<tr>
<td>Health Effects - Inhalation</td>
<td>Exposure to vapor at high concentrations have the following effects: - light headedness - dizziness - difficulty with breathing - drowsiness - nausea - mental confusion - increased blood pressure – increased respiratory rate - heart irregularities - loss of consciousness - suffocation if air is displaced by vapors. Individuals with preexisting diseases of the cardiovascular system or nervous system may have increased susceptibility from excessive exposures.</td>
</tr>
</tbody>
</table>

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS#/Codes</th>
<th>Concentration</th>
<th>R Phrases</th>
<th>EU Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,2,3,3-Heptafluoropropane</td>
<td>431-89-0</td>
<td>&gt;99.9%</td>
<td>None</td>
<td>Non Flammable Gas</td>
</tr>
<tr>
<td></td>
<td>EC#207-079-2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
4. 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.

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.

Advice 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 epinephrine or similar compounds can increase susceptibility to heart irregularities caused by excessive exposure to these types of compounds.

5. FIRE - FIGHTING MEASURES

Extinguishing Media
FM-200 is used as an extinguishing agent and therefore is not a problem when trying to control a blaze. 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.

Unusual Fire and Explosion Hazards
Containers may explode in heat of fire.

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

6. ACCIDENTAL RELEASE MEASURES

Wear full protective clothing and self-contained breathing apparatus. Remove leaking cylinder to a safe place. Ventilate the area. Leaks inside confined spaces may cause suffocation as vapors may displace air, and should not be entered without a self-contained breathing apparatus.

7. HANDLING AND STORAGE

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

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Standards
Occupational exposure limits are listed below, if they exist.

1,1,1,2,3,3,3-Heptafluoropropane
None established.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Control Measures
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.

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

Hand Protection
Wear rubber gloves. Avoid contact with skin.

Eye Protection
Chemical goggles or safety glasses with side shields. Avoid contact with eyes.

Body Protection
Normal work wear.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Liquefied gas under pressure</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.46</td>
</tr>
<tr>
<td>Boiling Range/Point (°C/F)</td>
<td>-16.4°C/3°F</td>
</tr>
<tr>
<td>Flash Point (PMCC) (°C/F)</td>
<td>Not Flammable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>260 mg/L</td>
</tr>
<tr>
<td>Vapor Density (Air = 1)</td>
<td>6.04</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>58.8 psia @ 70°F</td>
</tr>
<tr>
<td>Gas Density</td>
<td>2.01 lb/ft³ @ 70°F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to Avoid
- Heat - High temperatures - Exposure to direct sunlight

Materials to Avoid
- powdered metals (ex. aluminum, zinc, etc.) - strong oxidizing agents – strong reducing agents – strong alkalies

Hazardous Polymerization
Will not occur.

Hazardous Decomposition Products
- oxides of carbon - hydrogen fluoride
11. TOXICOLOGICAL INFORMATION

Acute Toxicity
4 hour LC50(rat) >788,698 ppm

Chronic Toxicity/Carcinogenicity
This product is not expected to cause long term adverse health effects.

Genotoxicity
This product is not expected to cause any mutagenic effects. Tests have shown that this material does not cause genetic damage in bacterial or mammalian cell cultures.

Reproductive/Developmental Toxicity
This product is not expected to cause adverse reproductive effects.

12. ECOLOGICAL INFORMATION

Mobility
No data available.

Persistence/Degradability
No data available.

Bio-accumulation
No data available.

Ecotoxicity
No data available.

13. DISPOSAL CONSIDERATIONS

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.

14. TRANSPORT INFORMATION

DOT CFR 172.101 Data Heptafluoropropane, 2.2, UN3296
UN Proper Shipping Name Heptafluoropropane
UN Class (2.2) Non-Flammable Gas
UN Number UN3296
UN Packaging Group Not applicable

15. REGULATORY INFORMATION

EU Label Information
Classification and labelling have been performed according to EU directives 67/548/EEC and 99/45/EC including amendments(2001/60/EC and 2006/8/EC)
EU Hazard Symbol and Indication of Danger.
Non Flammable Gas

R phrases
None

S phrases
None
15. REGULATORY INFORMATION

**US REGULATIONS (Federal, State) and INTERNATIONAL CHEMICAL REGISTRATION LAWS**

**TSCA Listing**
This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory.

**EINECS Listing**
All ingredients in this product are listed on the European Inventory of Existing Commercial Chemical Substances (EINECS) or the European List of New Chemical Substances (ELINCS) or are exempt from listing.

**DSL/NDSL (Canadian) Listing**
All ingredients in this product are listed on the Domestic Substance List (DSL) or the Non-Domestic Substance List (NDSL) or are exempt from listing.

**WHMIS Classification**
A
This product was classified in accordance with the hazard criteria of the Canadian Controlled Products Regulations and the MSDS contains all the information required by these regulations.

**MA Right To Know Law**
All components have been checked for inclusion on the Massachusetts Substance List (MSL). Those components present at or above the de minimis concentration include: - none

**PA Right To Know Law**
This product contains the following chemicals found on the Pennsylvania Hazardous Substance List: - none

**NJ Right To Know Law**
This product contains the following chemicals found on the NJ Right To Know Hazardous Substance List: - none

**California Proposition 65**
This product does not contain materials which the State of California has found to cause cancer, birth defects or other reproductive harm.

**SARA Title III Sect. 302 (EHS)**
This product does not contain any chemicals subject to SARA Title III Section 302.

**SARA Title III Sect. 304**
This product does not contain any chemicals subject to SARA Title III Section 304.

**SARA Title III Sect. 311/312 Categorization**
- Immediate (Acute) Health Hazard - Pressure Hazard

**SARA Title III Sect. 313**
This product does not contain a chemical which is listed in Section 313 at or above de minimis concentrations.

16. OTHER INFORMATION

**NFPA Ratings**
- NFPA Code for Health - 1
- NFPA Code for Flammability - 0
- NFPA Code for Reactivity - 0
- NFPA Code for Special Hazards – None
16. OTHER INFORMATION

HMIS Ratings
HMIS Code for Health - 1
HMIS Code for Flammability - 0
HMIS Code for Reactivity - 0
HMIS Code for Personal Protection - See Section 8

Abbreviations
N/A: Denotes no applicable information found or available
CAS#: Chemical Abstracts Service Number
ACGIH: American Conference of Governmental Industrial Hygienists
OSHA: Occupational Safety and Health Administration
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
STEL: Short Term Exposure Limit
NTP: National Toxicology Program
IARC: International Agency for Research on Cancer
R: Risk
S: Safety

Prepared By: EnviroNet LLC.

The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular use. Kidde – Residential and Commercial assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.