

## Safety Data Sheet

### FE-227 fire extinguishing agent

**Issue Date** 30<sup>th</sup> January 2015

**Status** ISSUED BY: Fire Protection Technologies

#### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product name:** FE-227 fire extinguishing agent

**Synonym:** FM-200  
2-Hydroheptafluoropropane  
Propane, 1,1,1,2,3,3,3-Heptafluoro-  
HFC-227eaHP  
2-Hydroheptafluoropropane  
Heptafluoropropane  
2-H-heptafluoropropane  
1,1,1,2,3,3,3-Heptafluoropropane  
R-227  
R227  
HFC-227ea

**Importer / Supplier:** Fire Protection Technologies

**Address:** Unit 1/251 Ferntree Gully Road  
Mt Waverley, Victoria, 3149 Australia.

**Telephone Number** 1300 742 296

**Emergency Tel No.** 24 hours 1300 742 296

**Emergency Services:** Dial 000

**SDS Preparer:** Fire Protection Technologies

#### 2. HAZARD IDENTIFICATION AND EMERGENCY OVERVIEW

##### **Hazardous Classification**

Classified Dangerous goods according to the ADG code  
DG Class 2.2  
HAZCHEM 2RE  
Not classified as hazardous according to criteria of NOHSC

##### **Specific hazards**

Misuse or intentional inhalation abuse may lead to death without warning.  
Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing.  
Rapid evaporation of the liquid may cause frostbite.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	Concentration	CAS #
1,1,1,2,3,3,3-Heptafluoropropane	>=99%	431-89-0

### 4. FIRST AID MEASURES

- Eye Exposure:** Rinse immediately with plenty of water and seek medical advice.
- Skin Exposure:** Wash off with warm water, take off all contaminated clothing immediately.
- Inhalation:** Move to fresh air, keep patient warm and at rest, Artificial respiration and or oxygen maybe necessary.
- Note to physician**
- Treatment:** Do not give adrenaline or similar drugs

### 5. FIRE FIGHTING MEASURES

- Extinguishing Media: N/A:** This product is an extinguishing agent.
- Special Firefighting Procedures:** Pressure build up.
- In the event of fire, wear self-contained breathing apparatus, use personal protective equipment, wear neoprene gloves during clean-up work after a fire.

### 6. ACCIDENTAL RELEASE MEASURES

- Personal Precautions:** Evacuate personal to safe areas, ventilate the area. Refer to protective measures listed in section 7 & 8
- Environmental precautions:** Should not be released into the environment.
- Methods for cleaning up: -** Evaporates

### 7. HANDLING AND STORAGE

#### ODS & SGG Requirements

As detailed in Fire Protection Industry (ODS & SGG) Board Code of Practice for the reduction of emissions of ozone depleting & synthetic greenhouse gas fire extinguishing agents, section 9 "Handling and Storage of ODS & SGG Extinguishing Agents"

#### Precautions for Safe Handling

Protect cylinders from physical damage, do not drag, roll, slide or drop. When moving cylinders use cylinder trolley, cage etc specifically designed to transport cylinders.  
Do not move cylinders without safety cap in place to prevent damage to valve.

**Conditions for Safe Storage, Including any Incompatibilities**

- Do not store near incompatible materials.
- Keep cylinders away from combustible materials and sources of heat and ignition
- Keep cylinders below 50°C in a well-ventilated place free from conditions likely to encourage corrosion.
- Cylinders shall be suitably restrained to prevent falling or toppling.
- Separate full containers from empty containers.
- Keep at temperature not exceeding 52°C.
- Do not store near combustible materials.
- Keep container tightly closed in a dry and well-ventilated place.
- Store in original container.
- Protect from contamination.
- Avoid area where salt or other corrosive materials are present.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

- Respiratory Protection:** During the use of this product on fires, exhaust gases and products of incomplete combustion are the main respiratory hazards. In the manufacture of this product, employers and employees must use their collective judgment in determining the on-the-job settings where the use of a respirator is prudent. The need for respiratory protection is not likely for short-term use in well ventilated areas. Use air-purifying respirators or powered air-purifying respirators with organic vapor and amine cartridges for acute short-term exposures. Long term exposures may require the use of positive pressure supplied air respirators or self-contained breathing apparatus.
- Eye Protection:** Wear chemical goggles.
- Skin Protection:** Use nitrile, latex or similar gloves and coveralls. Good personal hygiene practices are essential. After handling the product, avoid food, tobacco products or other means of transferring the product from hand to mouth until after thoroughly washing.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance</b>	Colourless liquefied compressed gas.
<b>Odour</b>	No odour
<b>PH</b>	Not available
<b>Vapour Pressure</b>	405 kPa @ 21°C
<b>Vapour Density (air = 1)</b>	6.04
<b>Boiling Point / Range</b>	-16.4°C
<b>Freezing / Melting Point (specify)</b>	-131°C
<b>Solubility in Water</b>	0.026
<b>Specific Gravity or Density</b>	1.46
<b>Flash Point</b>	None
<b>Upper and Lower Flammable (explosive) Limits in Air</b>	Not explosive
<b>Ignition Temperature</b>	Does not ignite

## 10. STABILITY AND REACTIVITY

<b>Reactivity</b>	Decomposes on heating.
<b>Chemical stability</b>	Stable at normal temperatures and storage conditions.
<b>Possibility of hazardous reactions</b>	Polymerization will not occur.
<b>Conditions to avoid</b>	The product is not flammable in air under ambient conditions of temperature and pressure. When pressurised with air or oxygen, the mixture may become flammable. Certain mixtures of HCFCs or HFCs with chlorine may become flammable or reactive under certain <b>conditions</b> . To avoid thermal decomposition, do not overheat.
<b>Incompatible materials</b>	Alkali metals Alkaline earth metals, powdered metals, Powdered metal salts
<b>Hazardous decomposition products:</b>	Hazardous decomposition products, Hydrofluoric acid...% Carbonyl difluoride, Carbon monoxide, Carbon dioxide

## 11. TOXICOLOGICAL INFORMATION

<b>Inhalation 4 h LC50</b>	> 788698 ppm , Rat
<b>Inhalation</b>	Dog Cardiac sensitization
<b>Dermal</b>	Not applicable
<b>Oral</b>	Not applicable
<b>Skin irritation</b>	No skin irritation. Not tested on animals  Not expected to cause skin irritation based on expert review of the properties of the substance.
<b>Eye irritation</b>	No eye irritation. Not tested on animals  Not expected to cause eye irritation based on expert review of the properties of the substance.

## 12. CONSIDERATIONS FOR DISPOSAL

The disposal of this product must be completed in a way that prevents emissions to the atmosphere in accordance with Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995.

## 13. TRANSPORTATION INFORMATION

<b>UN Number</b>	UN 3296
<b>UN Proper Shipping Name</b>	Heptafluoropropane
<b>Class and Subsidiary Risk</b>	D. G. Class 2.2
<b>Packing Group</b>	Packing Group III
<b>Special Precautions for User</b>	None
<b>HAZCHEM Code</b>	2RE

#### **14. REGULATORY INFORMATION**

HFC-227ea is an approved gas which is listed in Australian Standard AS ISO 14520 it also has an ActivFire approval listing as a fire extinguishing agent.

HFC-227ea is a Greenhouse Gas and is subject to the provisions of the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995

#### **15. OTHER INFORMATION**

**Reviewed: 30th January 2015**

This MSDS summarises our best knowledge of the health and safety hazard information of the specified product and how to safely handle the specified product in the workplace, however Fire Protection Technologies expressly disclaims that the MSDS document is a representation or guarantee of the chemical specifications for the specified product. Each user should read the MSDS and consider the information in the context of how the selected product will be handled and used in the workplace including its use in conjunction with other products. If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact us.

**END OF MSDS**