

MATERIAL SAFETY DATA SHEET

CLEAN AGENT FIRE EXTINGUISHERS

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

Product Name:	Clean Agent Fire Extinguishers 2, 4, and 6 kg Capacity.
Other Names:	HFC 236fa, FE 36 Fire Extinguishers
Recommended Use:	Fire extinguisher for Class A, B, C & Electrically started fires.
Supplier Name:	Kanadia Fyr Fyter Pvt. Ltd.
Address:	Plot No. 7/8, Paras Industrial Estate, Nr. Garibsha Pir Town: Sihor City: Bhavnagar PIN-364240
Emergency No.:	02846 231763

2. HAZARDS IDENTIFICATION

Hazard Classification:	When transported in a stored pressure or cartridge type fire extinguisher, the fire extinguisher is considered a class 2.2 hazard. The proper shipping name shall be FIRE EXTINGUISHER and the number is UN 1044
Hazards Identification:	Potential Health Effects: Skin: Contact with liquid or refrigerated gas can cause cold burns and frostbite. Eyes: Contact with liquid or refrigerated gas can cause cold burns and frostbite. Inhalation: Misuse or intentional inhalation abuse may cause death without warning symptoms, due to cardiac effects. Other symptoms potentially related to misuse or inhalation abuse are Anesthetic effects, Light-headedness, dizziness, confusion, in coordination, drowsiness, or unconsciousness, irregular heartbeat with a strange sensation in the chest, heart thumping, apprehension, feeling of fainting, dizziness or weakness. Vapors are heavier than air and can cause suffocation by reducing oxygen available for breathing. Repeated exposure: Adverse effects from repeated inhalation may include: Altered response to stimuli Carcinogenicity: None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, or OSHA, as a carcinogen.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Concentration (%)	CAS No.
1,1,1,3,3,3-Hexafluoropropane	>=99%	690-39-1

4. FIRST AID MEASURES

Inhalation:	If inhaled, remove to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.
Eye Contact:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.
Skin Contact:	Flush area with lukewarm water. Do not use hot water. If frostbite has occurred, call a physician.
Ingestion:	Is not considered a potential route of exposure.
Notes to physician	Because of possible disturbances of cardiac rhythm, catecholamine drugs, such as epinephrine, that may be used in situations of emergency life support should be used with special caution.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	This preparation 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 pressurized extinguishers and surroundings cool with water spray as they may rupture or burst in the heat of a fire.
Hazards from Combustion Products:	This product may decompose in fire and release Hazardous gases/vapors produced are: Hydrogen fluoride.
PPE for Fire Fighters:	Wear full protective clothing and self-contained breathing apparatus as appropriate for specific fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	Safeguards (Personnel): Keep upwind of leak - evacuate until gas has dispersed. Accidental Release Measures: Do not enter places where used or stored until adequately ventilated. NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.
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7. HANDLING AND STORAGE

General:	Protect the cylinder from damage. Handle in well-ventilated areas.
Safe Storage:	Store the extinguishers where there is no temperature beyond the marked operating ranges. Use the appropriate personal protective equipment when handling. Wash thoroughly after handling.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal Protection: Ensure adequate ventilation. Protect eyes, face and skin.

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.

Respiratory Protection: Wear NIOSH approved respiratory protection as appropriate.

Eye Protection: Wear chemical goggles.

Skin Protection: Where there is potential for skin contact, have available and wear as appropriate, impervious gloves, apron, pants, jacket, hood and boots.

Exposure Guidelines: Exposure Limit Values 1,1,1,3,3,3-Hexafluoropropane- No applicable data available

9. PHYSICAL & CHEMICAL PROPERTIES

Physical status Liquefied Colorless Gas

Odor: Slight ether like

Specific gravity ~1.36 at 25 °C (77 °F)

Freezing point -94 °C (-137 °F)

Density 1.3598 g/cm³ at 25 °C (77 °F) (as liquid)

Vapor Pressure 2,724 hPa at 25 °C (77 °F)

Boiling Point -1.44 °C (29.41 °F)

10. STABILITY AND REACTIVITY

Chemical Stability: Stable under normal conditions of handling and use.

Hazardous Polymerization Not applicable

Incompatibles Strong bases metallic sodium, Potassium, lithium

Hazardous Decomposition Products: Hazardous gases/vapors produced are:, Hydrogen fluoride

11. TOXICOLOGICAL INFORMATION

1,1,1,3,3,3-Hexafluoropropane

Dermal Not applicable

Oral Not applicable

Inhalation 4 h LC50 > 457000 ppm , rat

Inhalation Dog Cardiac sensitization

Skin irritation No skin irritation Not tested on animals Not expected to cause skin irritation based on expert review of the properties of the substance.

Eye irritation No eye irritation Not tested on animals Not expected to cause eye irritation based on expert review of the properties of the substance.

Skin sensitization	Does not cause skin sensitization. Not tested on animals Not expected to cause sensitization based on expert review of the properties of the substance. There are no reports of human respiratory sensitization.
Repeated dose toxicity	Inhalation Rat Reversible, Altered response to stimuli
Carcinogenicity	Overall weight of evidence indicates that the substance is not carcinogenic.
Mutagenicity	Did not cause genetic damage in animals. Did not cause genetic damage in cultured mammalian cells. Did not cause genetic damage in cultured bacterial cells.
Teratogenicity	Animal testing showed no developmental toxicity.
Further information	Cardiac sensitization threshold limit : 932751 mg/m3

12. ECOLOGICAL INFORMATION

Aquatic toxicity:	96 h LC50: Zebra fish 292 mg/l 96 h ErC50: Pseudokirchneriella subcapitata > 186 mg/l 48 h EC50: Daphnia magna (Water flea) 299 mg/l Environmental Fate Clean Agent fire extinguishing agent Biodegradability : 16 % According to the results of tests of biodegradability this product is not readily biodegradable.
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13. DISPOSAL CONSIDERATIONS

General:	Dispose of in compliance with local, state regulations that may be in force.
Special Precautions for Landfill or Incineration:	Can be used after re-conditioning. Reclaim by distillation, incinerate, or remove to permitted waste facility. Comply with applicable Federal, State/Provincial and Local Regulations.

14. TRANSPORT INFORMATION

UN No.:	1044
Class and Subsidiary Risk:	D.G. Class 2.2
Special Precautions for User:	None
UN Proper Shipping Name:	FIRE EXTINGUISHER

15. REGULATORY INFORMATION

The regulatory status of a material (including its ingredients) under relevant Indian health, safety and environmental legislation:	Clean Agent gas use as an extinguishing agent is approved by BIS under IS 15683:2018
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16. OTHER INFORMATION

General:	This data is based on our present knowledge. However, it shall not constitute a guarantee for any specific product featured and shall not establish a legally valid contractual relationship.
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