HFC-227EA CLEAN EXTINGUISHING AGENT

DESCRIPTION

NAFFCO HFC-227ea is included in the NFPA 2001 Standard on Clean Agent Fire Extinguishing Systems. At the concentrations of use NAFFCO HFC-227ea can be safely used to protect normally occupied areas. It is a clean agent and it does not leave residues after discharge and it is electrically non-conductive; it can be used to protect electronic and delicate equipment. NAFFCO HFC-227ea does not deplete the ozone layer and the Low Global Warming Potential makes it an overall environmentally acceptable product. NAFFCO HFC-227ea is US EPA Approved and UL Recognized.

FEATURES

- Colorless, odorless, liquefied compressed gas, stored as a liquid.
- Electrically-nonconductive.
- Discharge as gaseous vapor (due to its relatively low boiling point).
- Creates a homogeneous agent/air mix throughout the enclosure.
- Zero ozone depleting potential.
- Low global warming potential.
- Included on the U.S. EPA Significant New Alternative Policy (SNAP) rules.

PHYSICAL PROPERTIES

Chemical Name	Heptafluoropropane (CF3CHFCF3)
Molecular Weight	170.03
Boiling Point @ 760 mm Hg (@14.7 psia)	3°F
Critical Temperature	214°F
Critical Pressure	422 psi
Critical Density	38.76
Vapour Pressure @ 20°C (68°F)	66.28 psia
Freezing Point	-204 °F
Viscosity of Liquid @ 25°C, (77°F)	0.433 lb/ft/hr
Solubility of Water in Agent @ 21°C, (71°F) % by weight (ppm)	0.06
Specific Heat of Liquid @ 25°C, (77°F) kJ/kg°C	0.282 Btu/lb°F
Specific Heat, Vapor @ constant pressure of 1 ATM @ 77°F (25°C)	0.1932 Btu/lb°F
Thermal Conductivity of Liquid @ 77°F (25°C)	0.040 BTU/h ft°F
Heat of Vaporization @ Boiling Point at 25°C, (77°F) kJ/kg	56.7 Btu/lb
Ozone Depletion Potential	0
Estimated Atmospheric Lifetime (years)	31-41
LC50 (Rats; 4hrs - ppm)	>788,000

DESIGN CONCENTRATIONS

NAFFCO HFC-227ea can be used to extinguishing Class A fuels (surface fires of ordinary combustible materials), Class B fuels (flammable liquids and gases) and Class C fuels (fire involving energized equipment) occurring within a confined space.

Hazard Type	% by volume	W/V, lb/ft^3 @ 700F
Class A (Surface fires), including plastic materials typically found in electrical/electronic equipment	6.6	0.032
Class B Flammable Liquids	8.6	0.043
Class C Electrical	7.0	0.034

USE AND LIMITATIONS

HFC-227ea system shall be used on the following Class of Hazards:	HFC-227ea systems shall "NOT" be used on fire involving the following materials:
Class A & C: Electrical and Electronic Hazards Telecommunication Facilities High value assets, where the associated down-time would be costly.	Chemicals or mixtures of chemicals that are capable of rapid oxidation in the absence of air. (Examples include: Cellulo Nitrate and Gunpowder)
	Reactive metals such as Lithium, Sodium, Potassium, Magnesium, Titanium, Zirconium, Uranium, and Plutonium
Class B: Flammable liquids and gases.	Metal hydrides such as Sodium Hydride and Lithium Aluminum Hydride. Chemicals capable of undergoing auto-thermal decomposition. (Examples: Organic Peroxides and Hydrazine)

EXPOSURE LIMITATIONS

Hazard Type	Design Concentration	Maximum Human Expose Time
Normally Occupied Space	6.25% to 10.5%	5 minutes
Not Normally Occupied Space	11.0% to 12.0%	30 seconds

NAFFCO FZCO
World Headquarters
Dubai, United Arab Emirates
info@naffco.com | naffco.com