

TM

FE-227

**Protect  
what  
matters  
most.**



*The miracles of science™*



## PROTECTING WHAT MATTERS MOST

**FE-227™ protects vital computer equipment for all types of communications systems.**

DuPont is committed to working with its partners in the marketplace to develop solutions that add value to the fire protection industry, improve the safety and quality of life for people around the world, and provide you with peace of mind. Our goal in fire protection, like that of our customers, is to protect people and valuable assets.

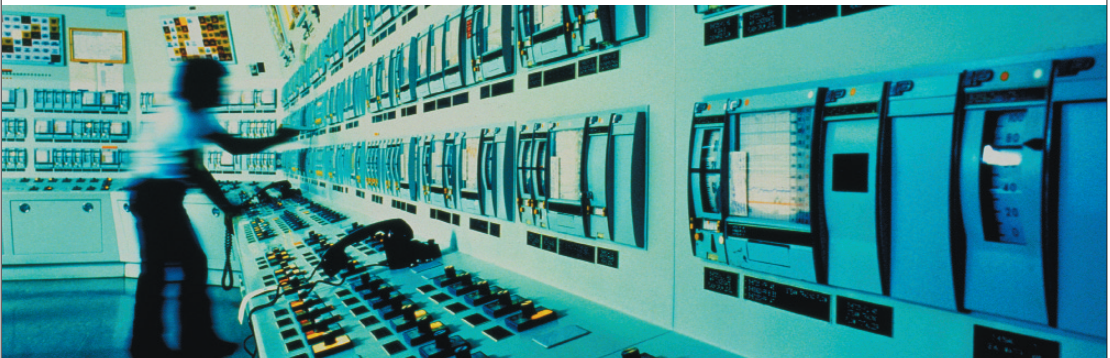
HFC-227ea is a widely used clean agent. It has been selected by the market due to its combination of efficiency, cost, environmental properties, people safety and its ability to prevent or extinguish fires. With FE-227™, DuPont continues its tradition of safety and you get peace of mind. DuPont™ FE-227™ protects what matters most.

### **The value of DuPont™ FE-227™**

DuPont™ FE-227™ is intended to prevent or extinguish fires in situations where conventional extinguishing agents such as water, dry chemicals and carbon dioxide are unacceptable because they cause collateral damage, significantly interrupt business productivity or present a safety risk. FE-227™ is effectively used in installations involving delicate or irreplaceable materials such as those found in museums, libraries and historical sites.

Normally, fires are extinguished by oxygen deprivation or cooling with water. However, DuPont™ FE-227™ uses other unique mechanisms to prevent or extinguish a fire. The dominant factor is the ability of FE-227™ to absorb, at a molecular level, the heat energy from the combustion reaction. When heat is absorbed, the reaction cannot sustain itself and combustion ceases. Fires in atmospheres containing FE-227™ are prevented or extinguished at a lower concentration of agent than predicted by heat capacity calculations. This is attributed to the ability of FE-227™ to form free radicals, which chemically interfere with the chain reaction of the combustion process, thereby aiding extinction. These mechanisms make FE-227™ a truly unique type of agent that operates more efficiently than those relying predominantly on oxygen depleting processes. This enhanced efficiency translates into a reduced amount of hardware and space required for storage compared to other extinguishing agents.

**Heat and smoke can quickly damage sensitive components. FE-227™ acts quickly to prevent or extinguish fires.**



## FE-227™: SAFER FOR PEOPLE, ASSETS & THE ENVIRONMENT

Of the many methods and substances used to prevent, control, and extinguish fire, DuPont™ FE-227™ fire extinguishing agent offers unique advantages over traditional extinguishants. It is safe for people, safe for assets, and is an environmentally preferred option.

**Safe for people.** The intended use for DuPont™ FE-227™ is to “flood” an enclosure with a gas concentration sufficient to prevent or extinguish a fire. FE-227™ is safe for use in occupied spaces. The EPA and the National Fire Protection Association (NFPA) classified heptafluoropropane or HFC-227ea (FE-227™) as acceptable for total flooding of normally occupied spaces.

**Safe for assets.** FE-227™ is electrically nonconductive, noncorrosive, and free of residue. As a gaseous agent, FE-227™ quickly distributes throughout the protected enclosure and prevents or extinguishes the fire. Operations can resume quickly, particularly if early detection methods are in use. As a clean agent, FE-227™ mixes thoroughly with air and leaves no residue that would cause damage or post-fire cleanup. This means less collateral damage and minimal business interruption, reducing the potential costs of any fire incident.

**Safer for the environment.** FE-227™ does not contain chlorine or bromine, and has zero ozone-depletion potential (ODP). Like many fluorine-based gases, HFC-227ea has some global warming potential. When an FE-227™ fire extinguishing system reaches the end of its useful life, the agent can be reclaimed for use in other systems. FE-227™ acts as a long-term insurance policy, providing improved security for people and assets with minimal impact on the environment.

The visitors, museum,  
and even the artwork  
are all safe with a system  
that utilizes FE-227™.



## PROPERTIES OF DUPONT™ FE-227™

Chemical Formula	CF <sub>3</sub> -CHF-CF <sub>3</sub>
Chemical Name	1,1,1,2,3,3,3-heptafluoropropane
ASHRAE Designation	HFC-227ea
Molecular Weight	170.03
Boiling Point	-16.5°C 2.3°F
Liquid Density @ 25°C @ 77°F	1386 kg/m <sup>3</sup> 86.53 lb/ft <sup>3</sup>
Vapor Pressure @ 25°C @ 77°F	453.3 kPa 65.7 psia
Ozone-Depletion Potential	Zero
Atmospheric Lifetime	36.5 years

## \*OTHER DUPONT CLEAN AGENT FIRE EXTINGUISHANTS

### FE-36™

FE-36™ is an advanced, zero ozone-depletion replacement for Halon 1211 in streaming applications. It can also be used as a replacement for Halon 1301 in modular suppression systems. Portable fire extinguishers using FE-36™ have been listed by Underwriters Laboratories for use on class A, B and C fires and are proving to be the standard in-kind replacement for Halon 1211.

### FE-13™

FE-13™ is a clean, environmentally acceptable, "people friendly" replacement for Halon 1301 as a total flooding agent under all use conditions. It is particularly applicable where high concentrations are needed for improved safety margins, where the protected spaces are large, or where the temperatures are likely to go below 0°C (32°F).

### FE-25™

FE-25™ is a low boiling point replacement for Halon 1301. It was chosen by the U.S. Department of Defense for engine nacelle fire protection on the V-22 and the E and F versions of the F-18™ aircraft. Commercially, it is used to prevent grain elevation explosions by stopping flame propagations. FE-25™ may be used in many total flooding applications where personnel may be present.

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