

# FE-25™

Fire Suppressant

Preferred Replacement for  
Existing Systems and the  
Choice for New Applications



**Chemours**



FE-25™ is particularly well-suited for sensitive applications, such as clean rooms.

### Protecting What Matters Most

There is no question that FE-25™ is a preferred clean agent replacement for construction and new applications. Chemours 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 – it's what matters most.

### A Tradition in Safety

Chemours is proud to continue its tradition of safety with FE-25™ – the preferred replacement for existing systems, new construction, and new applications. With FE-25™, Chemours is the only supplier capable of providing a full range of non-ozone depleting fire extinguishants for both new and existing systems on a global basis. Through the miracles of science, Chemours continues to reinforce its commitment to safety, environmental stewardship, and technology leadership.

FE-25™ offers the easiest, most cost-effective option to retrofit existing systems, as it requires minimal system modifications, minimizes downtime, and reduces costs of conversion. FE-25™ is approved for use in occupied areas, has a hold time superior to alternative agents, and protects what matters most.

### Why FE-25™?

FE-25™ has excellent physical properties, such as flow characteristics and vapor pressure. The pressure traces, vaporization, and spray patterns for FE-25™ nearly duplicate that of Halon 1301. FE-25™ has a low boiling point and can be used and/or stored at sub-freezing temperatures. The low boiling point also leads to rapid dispersion throughout an enclosure. The improved flow of FE-25™ versus other potential alternatives allows for remote cylinder storage.

### Safe for People

The EPA, NFPA, and ISO have accepted and incorporated the use of a physiologically based pharmacokinetic (PBPK) model to determine allowable human exposure limits for halocarbon agents. The PBPK model provides a more accurate assessment of the length of time that a person can be exposed to a chemical. In essence, the PBPK methodology raised the allowable concentration for FE-25™ in occupied spaces from 10.0% to 11.5%. The typical design concentration for FE-25™ is 8.0%, within the prescribed limits.

The PBPK model brings scientific analysis to a process that was previously incomplete to determine safe human exposure requirements. While a reliance on animal testing techniques and associated findings still exists, it is recognized that people may vary in their level of sensitivity to these types of agents. The PBPK process requires that a statistical method is run to identify safe exposure levels and egress times for humans with the highest levels of sensitivity. This process requires that highly sensitive humans are used for setting safe exposure levels. Scientific adaptation of cardiac testing from animals to humans (factoring in the most sensitive human levels to set limits) makes the PBPK model a safer mechanism to establish appropriate human exposure levels.

### Safe for Assets

FE-25™ is electrically non-conductive, non-corrosive and free of residue, has zero ozone depletion potential (ODP), and is an environmentally preferred alternative.

As a clean agent, FE-25™ mixes thoroughly in air and does not leave behind any residue, which would cause damage or pose a post-fire clean-up problem. This means no collateral damage and minimal business interruption. FE-25™ is intended to protect people, high value assets, and the continuity of business.

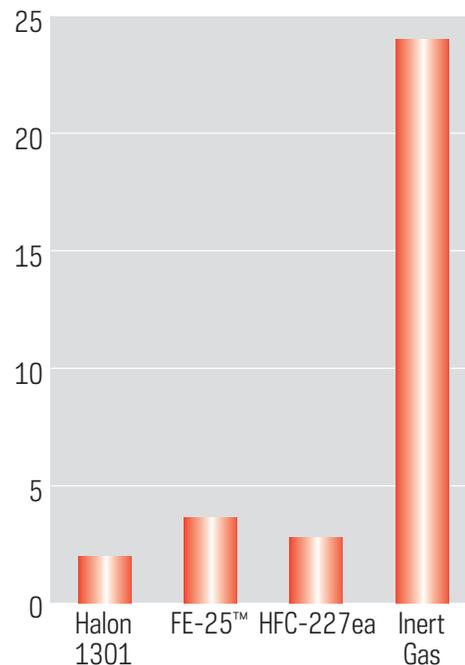
### Safe for the Environment

FE-25™ is an environmentally preferred alternative; it does not contain chlorine or bromine, and, therefore, has zero ODP. Overall environmental impact is also minimized by improved detection technology and extremely low discharge rates into the environment.

### Properties of FE-25™

Chemical Formula	CF <sub>3</sub> -CHF <sub>2</sub>
Chemical Name	Pentafluoroethane
ASHRAE Designation	HFC-125
Molecular Weight	120.02
Boiling Point	-48.3°C (-55°F)
Liquid Density at 25°C	1189.7 kg/m <sup>3</sup>
at 77°F	74.27 lb/ft <sup>3</sup>
Vapor Pressure at 25°C	1381.5 kPa
at 77°F	200.4 psia
Ozone Depletion Potential	Zero
Atmospheric Lifetime	32.6 years

### Relative Volume Storage Requirements at Design Concentration Levels for Class A Hazards





FE-25™ ...protecting our planet and paving the way to the future.

### Other Clean Agent Fire Extinguishants from Chemours

#### FE-36™

FE-36™ is an advanced, zero ozone depleting 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, the protected spaces are large, or where temperatures are likely to go below 0°C (32°F).

#### FM-200™

FM-200™ is a clean agent fire extinguishant replacement for Halon 1301 with zero ozone depleting potential. It is used in total flooding applications for the protection of people and high value assets, such as those found in computer rooms, telecommunication facilities, museums, and clean rooms. The EPA and NFPA classified heptafluoropropane or HFC-227ea as acceptable for total flooding of normally occupied spaces at controlled concentration and egress times.

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