



Dear Valued Customer:

This letter is specifically addressing information being used to cause confusion in the market place around the acceptable use of DuPont™ FE-25™ (HFC-125) in spaces where people are present (occupied spaces). Before going into the details on this subject, DuPont wants to make it clear that FE-25™ is safe for use in occupied spaces. We are using it at our own facilities and will continue to do so. Anyone familiar with the DuPont safety culture, reputation and history will understand there is no greater endorsement of the safety of this product than our own use!!

In the early 1990's, HFC-125 was a leading alternative to replacing Halon 1301 in total flooding fire suppression systems. At the time, the key criteria for use of an alternative to Halon 1301 in occupied spaces was that the design concentration (extinguishing concentration + a 20% safety factor) must be below the measured Lowest Observed Adverse Effect Level (LOAEL). For most fluorochemicals, the Lowest Observable Adverse Effect Level (LOAEL) is cardiac sensitization. For HFC-125 this concentration is 10.0%. At this time (1993), the extinguishing concentration for Class-A hazards was determined using Class-B fuels (n-heptane). Since the minimum design concentration of HFC-125 for a heptane fire is over 11% (above the LOAEL) and **the best available methodology for characterizing safety in use, in 1993**, was a concentration below the LOAEL, DuPont stopped development of HFC-125 for use in areas where people are present.

As is the case with most science-based areas, technology continues to improve. With technology improvement comes enhanced safety evaluations, understanding of results and decisions. Since 1993, there has been a significant amount of work trying to understand the appropriate limitations around the use of fire extinguishants. There have also been improved methods to establish fire-extinguishing concentration levels for Class-A hazards (computer rooms, data centers, etc.).

First, the fire protection industry agreed that using heptane to model the protection of computer rooms, etc. was forcing end-users to use more extinguishing agent than is really necessary. As a result, the industry agreed on a new Class-A hazard test (also known as a plastics test) to measure the design concentration of the various clean agent alternatives. For HFC-125, this concentration is 8.0%. Under the current NFPA 2001 standard guidelines for NOAEL/LOAEL, HFC-125 can be used in occupied spaces up to a concentration of 10.0% providing egress from the room can be achieved in five minutes or less. Therefore, HFC-125 is safe for use in occupied spaces.

Secondly, the United States Air Force and US EPA led the effort to correlate the toxicity testing of the fluorochemical extinguishants to people. As a result of this effort, new data has been developed relating the exposure of people to these materials. The result of this has been the industry accepted toxicity methodology, PBBK. Essentially, the PBBK incorporates the time of exposure with the concentration of exposure. In simple terms, a person can be exposed to a

higher concentration of a chemical for one second than they can if exposed to the chemical for one hour.

The current edition of NFPA 2001 incorporates the PBBK methodology establishing the accepted 11.5% design concentration for HFC-125 (ECARO-25). Therefore, HFC-125, with a design concentration of 8.0% to 11.5%, is verifiable and documented by the fire protection industry as safe for use in occupied spaces.

In summary, DuPont is being very clear in our position regarding the use of HFC-125 for occupied spaces. Here are the key points:

- HFC-125 is safe for occupied spaces
- DuPont is using HFC-125 at our own facilities for occupied spaces
- PBBK toxicity methodology is the leading edge technology for understanding the allowable exposure limits of fluorochemical agents
- HFC-125 has the closest physical property match of any alternative to Halon 1301
- HFC-125 is the lowest cost alternative to Halon 1301

DuPont has always, and will continue to always, market our products based on the best current technologies and information around their safety-in-use. Safety is our first priority for our employees, our customers and the communities we operate in. If there is any doubt concerning the safety in using any of our products, please contact DuPont directly. I can be reached at 302-999-2161 to answer any questions.

Sincerely,



Kenneth Blanchard
Global Marketing Manager
DuPont Fire Extinguishants