- **System design and components certified by LPCB**
- **Wide safety margin for occupied areas**
- **No ozone layer depletion**
- **Widely accepted as a substitute to Halon 1301**
- **No residue to clean up after the fire**
- **Suitable for high ceilings (up to 7.5 m)**
- **Suitable for low temperatures**
- **Included in Standards ISO 14520, UNE 25573 and NFPA 2001**

Speed, Safety and Flexibility

FE-13™

FE-13™ is a high-pressure clean extinguishing agent manufactured by DuPont. Electrically non-conductive. Suitable for the protection of computer rooms, archives and electrical equipment. Specially suitable for storage areas requiring low temperatures. Proven efficacy in enclosures with ceilings as high as 7.5 metres height.

As all fluoride agents that substitute Halon 1301, FE-13™ extinguishes fire primarily by absorbing heat. FE-13™ leaves no residue to clean up after the fire neither in an accidental discharge nor in the event of fire.

FE-13™ is particularly safe for applications in occupied areas. Most FE-13™ systems are designed to a concentration of 16,5%, whereas the NOAEL level of this extinguishing agent is 50%. Currently there is no extinguishing

agent available with such a high safety margin.

Because of its high vapour pressure at ambient temperature (41 bar @ 20º C), FE-13™ does not require to be pressurized with nitrogen. The agent is stored in seamless drawn steel high-pressure containers in compliance with national and European regulations. Discharge is performed through valves totally developed by LPG, approved by most renowned independent organizations. They offer a great flexible adaptability for all actuation and release systems currently used in the market, even allowing combinations of several of them. Incorporated in the design is a protection against accidental actuation due to small leakages. They also allow checking and maintenance of all critical elements contained in a fixed extinguishing system, at the time of commissioning and later for system preventive maintenance, thus preventing the risk of accidental discharge.

LPG range of equipment for use with this extinguishing agent includes discharge nozzles specially designed to make use of FE-13™ properties.

Nozzles are suitable for use in hazards of up to 7.5 metres. They are available for coverage of 180º and 360º.

The system may be modular or centralized. Modular systems include individual cylinders, located near the hazard to be protected. Centralized systems are formed by a cylinder bank, which may be fitted with selector valves for the protection of several hazards.

LPG FE-13 system and its components are certified by LPCB and CNPP.

Physical Properties	
Chemical name	Trifluoromethane
Chemical formula	CHF_3
Denomination according to ISO 14520 and NFPA 2001	HFC 23
Molecular weight	70.01
Boiling point at 1.013 bar	-82.1 ºC
Liquid density at 20ºC	807 kg/m³
Critical temperature	25.9 ºC
Critical pressure	48.36 bar
Vapour pressure at 20ºC	41.83 bar
Relative electrical resistance at 1 atm. 25ºC (N_2=1.0)	1.04
Maximum filling density	0.85 kg/l
Design concentration for heptane	16,8%
Flooding factor for heptane at 20ºC	0.592 x 1.2 kg/m³
Design concentration for surface fires class A	16,5%
Flooding factor for surface fires class A	0.580 x 1.2 kg/m³
NOAEL	50%
LOAEL	>50%
Ozone depletion potential	0
Greenhouse effect potential	11.700
Approvals and recognitions	EPA-NFPA, UL-FM

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