

# FE-13™

- 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 discharge
- Suitable for low temperatures
- Included in Standards ISO 14520, UNE 25573, and NFPA 2001

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.

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 discharge 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 14.6% 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 @ 20°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.



## Speed, Safety and Flexibility



Centre National de Prevention et Protection



International Maritime Organization



VNIPO Instituto Certificador de Rusia



Agencia Protecciyn Contra Incendios  
Ministerio del Interior



Loss Prevention Certification Board



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 360°.

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 RUSSIA  
ISTA-Complete, Ltd  
St.Petersburg  
Tel.: +7 812 324 41 36  
e-mail: rad@ista.ru

## Physical Properties

Chemical name:	Trifluoromethane
Chemical formula:	CHF <sub>3</sub>
Compliance with ISO 14520 and NFPA 2001:	HFC 23
Molecular weight:	70.01
Boiling point at 1.013 bar:	-82.1° C
Liquid density at 20° C:	807 kg./m <sup>3</sup>
Critical temperature:	25.9° C
Critical pressure:	48.36 bar
Vapour pressure at 20° C:	41.83 bar
Relative electrical resistance at 1atm. 25° C ( N <sub>2</sub> =1.0):	1.04
Maximum filling density :	0.85 kg./l.
Design concentration for heptane:	14.6%
Flooding factor for heptane at 20° C:	0.576 x 1.2 kg./m <sup>3</sup>
Design concentration for surface fires class A (ISO):	14.6%
Flooding factor for surface fires class A (ISO):	0.555 x 1.2 kg./m <sup>3</sup>
Design concentration for class A higher fires (ISO):	16.3 %
Flooding factor for class A higher fires (ISO):	0.572 x 1.2 kg/m <sup>3</sup>
Design concentration for class A fires (NFPA):	14.7 %
Flooding factor for class A fires (NFPA):	0.506 x 1.2 kg./m <sup>3</sup>
NOAEL:	50%
LOAEL:	>50%
Ozone depletion potential:	0
Greenhouse effect potential:	11.700
Approvals and recognitions :	EPA-NFPA, UL-FM