



FE-13™

"Product with DUPONT™ guarantee"

FE-13™ is a clean agent manufactured by DuPont™ within their wide range of gases for fire suppression. Is well-suited when the protected spaces are large or where the temperatures are low due to its low boiling point (-82.1°C). Its efficiency has been tested with ceilings 7.5 m high. Its physical-chemical properties make it interesting to use in inerting applications in occupied spaces and where a big volume of clean agent is needed. FE-13™ is made of carbon, fluorine and hydrogen (CHF₃). It is electrically non-conductive, clean and does not leave residues behind after application.

FE-13™ is approved for protecting areas where people are present. Its high NOAEL (50%), makes it the clean agent with the highest security margin in the market. This is a very important factor to design a total flooding system using gas as clean agent.

Extinguishes fire by physical means. It transfers the physical-chemical heat, absorbing the heat from the flame and combustible. Its design concentration

for Class A fires is 18%. A discharging time of 10 seconds guarantees a fast extinguishing and minimizes the damage caused by the fire.

Does not
leave
residues
after
application

Comparing with other chemical gases, FE-13™ has a very high vapor pressure at ambient temperature (41 bar at 20°C), so it does not need additional nitrogen pressurization. The clean agent is stored in high pressure weldless steel cylinders manufactured under European standards for a working pressure of 137 bar at 50°C. In the cylinders batteries the piping and the discharge manifold is schedule 80 with 3000 pounds accessories (due to the high storage pressure, 137 bar at 50°C). The valves for this type of gas have double chamber, full bore and interlock.

With this system, the cylinder is totally emptied, nevertheless, it's recommended to increase the design concentration in order to avoid a possible leaks during discharge.

To detect clean agent leaks, it is used continuous weighing systems (do not use pressure switches). SIEX supplies this equipment for different bottle capacities. When the bottle reduces its weight due to a leak or real discharge, the continuous weighing transmits a signal that is processed in the fire control room as an alarm.

Efficient in
rooms 7.6m
high



Dupont FE-13 physical properties

Chemical name	Trifluorometane
Chemical formula	CHF ₃
Name according to (ISO14520,UNE23570 and NFPA2001)	HFC-23
Molecular weight	70
Boiling point at 1.013 bar	-82.1°C
Liquid density at 20°C	807 kg/m ³
Critical temperature	25.9°C
Critical pressure	48.36 bar
Vapor pressure at 20°C	41.83 bar
Relative electrical resistance (a 1 atm. 25°C (n2=1.0))	0.995
Maximum fill density	0.85 kg/l
Typical design concentration for heptane	16.5%
Flood factor for heptane at 20°C	0.71 kg/m ³
Design concentration (for Class A surface)	18%
NOAEL	50%
LOAEL	>50%
Ozone Depletion Potential	0
Global Warming Potential	11700
Cylinder working pressure at 50°C	137 bar
Recommended piping	Schedule 80

Easy to find in
the national
market

Suitable for
occupied spaces
with excellent
discharge
characteristics

For more information:



General characteristics

- *Fast extinguishing*
- *No residues left behind after application*
- *Recommended for high ceiling hazards*
- *Recommended for low temperature hazards*
- *Excellent discharge properties*

Approvals:

ISO14520, UNE23573, NFPA 2001 and EPA SNAP listed.

Applications

- *Turbine enclosures*
- *Oil rig platforms*
- *Gas processing facilities*
- *High ceiling rooms (up to 7.5m)*
- *Low temperature areas*
- *Refineries*



SIEX

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