



Novec™ 1230

"Dry Water"

Novec™ 1230 is an odourless, colourless, electrically non-conductive fluid that evaporates rapidly. It was designed as a replacement for Ozone Depletion Substances (ODSs) such as halon.

Novec™ 1230 has a minimal impact on the environment and a negligible global warming potential. It is designed to protect important and sensitive data processing and telecommunications equipment as well as museums and archives, which otherwise would be subject to irretrievable damage if traditional sprinkler systems were used.

Novec™ 1230 has the lowest design concentration and a higher safety margin than Halon 1301. Its ozone depletion potential is zero and its atmospheric lifetime is extremely low, only five days. This makes **Novec™ 1230** an environmentally friendly extinguishing agent.

It has the appearance of water (it is a liquid at atmospheric pressure), it spills and flows in a similar way, but it does not wet objects so it does not damage any equipment. It is particularly useful for fighting fires where water can cause more damage than the fire itself, or where the use of water is simply not feasible, such as in banks, museums and hospitals.

He is useful to
fight fires where
the water can
cause damage.

It is possible to immerse electronic equipment in **Novec™ 1230** without causing the slightest damage so it is widely used in fire protection systems in computer rooms, data processing centres, and so on.

One advantage of **Novec™ 1230** is that as a liquid agent it can be transported in drums, which is much simpler than using pressurised cylinders. This means that it can be sent by air in bulk.

This liquid can be poured, it has low viscosity and is easy to handle. Discharges are also safe and produce very little noise.

Novec™ 1230 agent extinguishes fires by physical means, through its cooling effect, weakening the fire until it disappears, by absorbing heat while at the same time preventing contact between the combustible material and oxygen to prevent combustion. It also absorbs heat from the flame and fuel (endothermic break point).

Novec™ 1230 has a low latent heat of vaporisation. The energy needed to transform it into vapour is one twenty-fifth that of water and is absorbed directly from the air, allowing evaporation to occur in a matter of seconds and decreasing the temperature in the vicinity, which prevents reignition of the fuel. Unlike inert gases which base their effect on the displacement of oxygen, **Novec™ 1230** agent also interrupts the combustion reaction.

Its extinguishing capacity is high. For class A fires it has a minimum extinguishing concentration of 3.4% in volume and a design concentration of 5.3%.

The agent is stored in cylinders as a liquid pressurised with nitrogen, and when discharged it turns into a colourless and odourless gas. In the **SIEX-Novec™ 1230** system, cylinders are pressurised with dry nitrogen (20°C) to 24 bar or 42 bar, and for this reason SIEX offers cylinders for both pressures. Its storage pressure allows the use of standard pipes and fittings such as grooved couplings, reducing installation costs.



Novex™ 1230 - Physical attributes

Chemical formula	$\text{CF}_3\text{CF}_2\text{C}(\text{O})\text{CF}(\text{CF}_3)_2$
Molecular weight	316.04 g/mol
Boiling point at 1.013 bar	49.2°C
Melting point	168.6°C
Critical temperature	168.6°C
Critical pressure	18.6°C
Freezing point	-108°C
Critical volume	494.5 cc/mole
Critical density	639.1 kg/m ³
Vapour pressure at 20 C	0.326 bar abs
Liquid density at 20 C	1.616 g/m ³
Design concentration (for heptane)	5.9%
Flooding factor for heptane at 20 C	0.87233
Design concentration (for Class A surface fires)	5.3%
Flooding factor (for Class A surface fires)	0,77891
NOAEL	10%
LOAEL	>10%
Ozone Depletion Potential (ODP)	0
Global Warming Potential (GWP)	1
Atmospheric lifetime	5 days
Superpressurisation with nitrogen	24 and y 42 bar
Recommended piping	DIN 2440, DIN 2448

It has water appearance, it is spilled and it flowed of similar form

High safety margin
(79% security)

For more information:



General features

- **Halon replacement.**
- **Fast extinguishment (discharge time: 10 seconds).**
- **High efficiency with a low extinguishing concentration (5.3%).**
- **Novex™ 1230 looks like water but does not wet objects.**
- **High safety margin (79% safety).**
- **Minimum installation footprint.**
- **Environmentally friendly extinguishing agent.**
- **Atmospheric lifetime of only five days.**
- **Not restricted by the Kyoto Protocol.**
- **The fluid can be poured, has low viscosity and is easy to handle.**
- **Non-toxic, non-corrosive and electrically non-conductive.**
- **Easy to refill.**
- **No restrictions for air, land or sea transport.**
- **The fluid can be poured, has low viscosity and is easy to handle.**
- **Worldwide approval:**
ISO 14520-5, NFPA 2001

Applications

Novex™ 1230 can be used effectively in total flooding and inerting applications and for explosion suppression in the following areas:

- **Data processing rooms.**
- **Telecommunications, communication centres, server racks.**
- **Computer rooms.**
- **Cargo vessels and transportation vehicles.**
- **Motor rooms.**
- **False floors, false ceilings, cable tunnels.**
- **Archives, museums, libraries, etc., especially suitable for large spaces.**



SIEX

Polígono Industrial de Villalonquéjar
C/ Merindad de Montija, nº 6 - 09001 BURGOS (SPAIN)
Telf.: +34 947 281 108 / Fax: +34 947 281 112
E-mail: siex@siex2001.com
www.siex2001.com