Fire extinguishing agents can be potentially harmful to humans. Reviewing the permitted limit for humans and the design concentration gives the best guide to an agent’s potentially hazardous effect. The NOAEL (No Observed Adverse Effect Level) is the internationally established limit for the various extinguishing agents. The design concentration is the amount of extinguishing agent required to extinguish the fire safely. The margin of safety for humans arises from the relative difference between the design concentration and the specific NOAEL.

As the chart shows, Novec 1230 Fluid offers the highest safety margin. It also remains safe in case of future alterations to the free volume of the space (e.g., if integration of additional inventory/equipment reduces air volume and increases design concentration).

Novec 1230 Fluid provides widest safety margin for use in occupied spaces.

Within seconds, the full extinguishing effect of 3M Novec™ 1230 Fire Protection Fluid unfolds... When released in a properly designed system, Novec 1230 fluid rapidly vaporizes and evenly distributes throughout the protected space within 10 seconds. It absorbs the heat from the fire, thus interrupting the chain reaction and within 40 seconds the fire is extinguished.

When space is at a premium, fire extinguishing systems requiring multiple cylinders can present a challenge. 3M Novec™ 1230 Fire Protection Fluid is stored as a liquid, whereas inert gases or CO₂ are stored as a gas. This means you need significantly less cylinders to store Novec 1230 fluid, enabling more flexible site selection. For confined spaces, the cylinders can be installed within the protected area, removing the need for a separate storage room.

In the long run, Novec 1230 fluid can save you space. And associated cost.

3M™ Novec™ 1230 Fire Protection Fluid has an environmental profile unmatched by any other synthetic clean agent available today. Zero Ozone Depletion Potential and a Global Warming Potential of 1 due to a five-day atmospheric lifetime. It is therefore the only synthetic fire extinguishing agent not subject to the European F-gas Regulation or any other International Directive or Regulation.
Safe, sustainable fire protection... for your peace of mind.

Protection of your most critical assets.

3M™ Novec™ 1230 Fire Protection Fluid is a next-generation synthetic clean agent, designed to balance concerns for human safety, performance and the environment. Novec 1230 fluid has an unmatched environmental profile: safety, performance and the environment.

Synthetic clean agent, designed to balance concerns for human safety, performance and the environment. Novec 1230 fluid provides the largest margin of safety relative to all other clean agents, making it the ideal solution for occupied spaces.

From control rooms to museums archives... we've got them covered.

Novec 1230 fluid is mainly used in indoor extinguishing systems for the protection of critical assets in enclosed areas. It has a very fast extinguishing time, is electrically non-conductive and leaves no residue. This makes it ideal for applications where it's important to maintain the operation of electronic equipment during and after system discharge to prevent damage to valuable and critical assets.

Novec 1230 fluid distributes 3-dimensionally and diffuses very rapidly in all critical areas (e.g. server cabinets). The extinguishing effect of Novec 1230 Fluid is solely based on cooling and not, as with inert gases, on the principle of air displacement (and oxygen reduction). If Novec 1230 fluid comes into contact with fire, it removes the heat so combustion reactions can no longer occur.

A fire extinguishing system using Novec 1230 Fluid

1. Extinguishing agent distribution
   a) Ceiling b) double floor c) cylinder(s)
2. Nozzle a) ceiling b) double floor
3. Fire detection and control a) Aspirating smoke detector b) Fire detection and control device
4. Automatic fire detector a) ceiling b) double floor
5. Alarm siren
6. Pressure relief
7. Air supply

Novec 1230 Fluid is a C6-fluoroketone with the chemical formula CF₃CF₂ODCF₂OF. It is a liquid at room temperature with a boiling point of 49°C. Upon release, it vaporizes immediately and distributes as a gas within seconds.

Novec 1230 Fluid is mainly used in
- Data Processing Centres
- Computer Rooms
- Computer Storage Facilities
- Control Centres (e.g. Airport)
- Power plants
- Control rooms, Switch/gear rooms
- Turbine rooms
- Hotels & Laks
- CT and MRI rooms
- Clean Rooms, Laboratories
- Marine & Aviation
- Machine/Engine rooms
- Control and Paint rooms
- Storage rooms
- Petrochemical Facilities
- Filling stations
- Gas compressor rooms
- Offshore oil exploitation rigs
- Transportation
- Merchant marine vessels
- Mass transit vehicles
- Race cars
- Cultural Facilities
- Archives, Libraries, Museums
- Telecommunications
- Cellular sites, Switch Rooms
- Transportation
- Merchant marine vessels
- Mass transit vehicles
- Race cars
- Cultural Facilities
- Archives, Libraries, Museums
- Telecommunications
- Cellular sites, Switch Rooms
- Marine & Aviation
- Machine/Engine rooms
- Control and Paint rooms
- Storage rooms
- Oil & Gas
- Petrochemical Facilities
- Filling stations
- Gas compressor rooms
- Offshore oil exploitation rigs
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- Control rooms, Switch/gear rooms
- Turbine rooms
- Hotels & Laks
- CT and MRI rooms
- Clean Rooms, Laboratories
- Marine & Aviation
- Machine/Engine rooms
- Control and Paint rooms
- Storage rooms

Very fast extinguishing time
No damage to the exposed assets/materials
Electrically non-conductive and non-corrosive
Minimises downtime, helping business continuity
Negligible Global Warming Potential (GWP = 1)
No ozone depletion potential
Not subject to the F-gas Regulation or any other international regulation or directives, therefore high investment security
Space efficiency – limited floor space requirements
Easy to transport and refill

Key features at a glance.

Approvals

- Easy to transport and refill
- Very fast extinguishing time
- Wide safety margin for humans
- No damage to the exposed assets/materials
- Electrically non-conductive and non-corrosive
- Minimises downtime, helping business continuity
- Negligible Global Warming Potential (GWP = 1)
- No ozone depletion potential
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- Space efficiency – limited floor space requirements
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3M™ Blue Sky™ Warranty.

Your insurance in case of future regulatory prohibitions or restrictions. If 3M™ Novec™ 1230 Fire Protection Fluid is banned from or restricted in use as a fire protection agent due to Ozone Depletion Potential (ODP), or Global Warming Potential (GWP) 3M will refund the purchase price of the Novec 1230 fluid. This guarantee is valid for 20 years.

Novec 1230 fluid is supported by 3M global sales, technical and customer service resources, with fully-staffed technical service laboratories in the U.S., South America, Europe, Middle East, Japan and Southeast Asia.