Kidde Fire Protection
A UTC Fire & Security Company

Fire Suppression System
Engineered for use with 3M™ Novec™ 1230 Fire Protection Fluid

The Fire Suppression System engineered for use with Novec fluid is the next generation in gaseous fire suppression technology. Designed to protect human life and high value assets from fire, it meets industry concerns for safety, performance and the environment.

Novec 1230 fluid (FK-5-1-12) is a fluorinated ketone that is stored as a liquid and discharged as a gas. It distributes uniformly throughout the hazard zone, and suppresses fire primarily by heat absorption from the flame.

ENVIRONMENT

With a zero ozone depletion potential (ODP), a global warming potential (GWP) of just one, and an atmospheric lifetime (ALT) of only five days, Novec 1230 fluid offers an environmentally responsible option for fire suppression. With a low GWP, Novec 1230 does not fall under the European F-Gas Regulation, which imposes further control on minimising unwanted emissions and registration of use. When used in a fire event, the fluid mitigates the effect of an uncontrolled fire. At the end of the lifetime of the system, the fluid can be readily recovered and recycled.

Properties	FK-5-1-12	HFC-125	HFC-227ea
GWP	1	3400	3500
ALT (Years)	0.014	29	33
SNAP	Yes	Yes	Yes

CLEAN

Novec 1230 fluid discharges as a colourless, electrically non-conductive and non-corrosive gas that does not damage sensitive equipment. There is no post-discharge residue, no costly clean-up operations are required, and down-time is kept to a minimum.

COST-EFFECTIVE

By using its tried and trusted range of 25 bar equipment, Kidde Fire Protection can offer a cost-effective Novec 1230 fire suppression system.

EFFICIENT

Small and large-scale tests have proven that Novec 1230 fluid puts fires out quickly, before they can do any serious damage. It does this by reaching extinguishing concentrations in less than ten seconds, while being effective on a wide range of Class A, Class B and electrical fires.

SAFETY

The US EPA Significant New Alternatives Program (SNAP) classifies Novec 1230 fluid as acceptable for use as a total flooding agent in occupied spaces. A low design concentration of 4 to 6% in combination with a high No Observable Adverse Effect Level (NOAEL) of 10% means it provides a design concentrataion safety margin of up to 100%. This is by far the largest safety margin of any clean agent currently available. In addition, there is no risk of human asphyxiation with Novec 1230 fluid since it does not act by oxygen depletion in the hazard zone.

Agent	FK-5-1-12	HFC-125	HFC-227ea
Typical Use Concentration	4.2-5.9%	8.0-12.1%	6.25-9.0%
NOAEL[3]	10%[4]	7.5%	9%
Design Concn. Safety Margin	67-150%	Nil	3-20%

[3]NOAEL for cardiac sensitiation
[4]NOAEL for acute toxicity, including cardiac sensitization

SYSTEM DESIGN

The Kidde Fire Protection system comprises Novec 1230 fluid stored in steel cylilnders connected to distribution pipework and specially designed discharge nozzles.

Novec 1230 fluid is stored as a liquid super-pressurised to 25 bar with nitrogen. This allows efficient transport and vapourisation of the Novec fluid, allowing flexible system design. These systems have minimal storage space and weight requirements compared to other viable gaseous agents.

The range of cylinders, valves and related components has been specially selected for use with Novec 1230 fluid and has been subjected to stringent testing procedures. Flexibility, quality and reliability make the Kidde Fire Protection range the world's finest in fire safety.

Engineered systems are designed using FM Global and UL verified software and guidelines, and offer optimum designs for the defined risks with reduced pipe sizes, unbalanced flows and common room and void protection possible.

Cylinders

A wide range of cylinder sizes from 5 to 368 litres is available, offering a choice of fill capacities to meet specific requirements and ensure maximum economy in installation. Each cylinder is manufactured from high strength alloy steel and both TPED and DOT are available.

Valves

Valves are designed for optimum system performance, allowing pipe sized to be reduced and installation costs to be lowered. They are manufactured from tough, corrosion-resistant brass under stringent quality control standards. A pressure monitoring gauge and optional supervisory pressure switches are provided for easy servicing. Valves are actuated by electric solenoid, pneumatic, or local manual release at the control head.

All related components from discharge nozzles to control heads are designed to be compatible, allowing a complete system to be configured using FM Global and UL approved Kidde Fire Protection equipment.

Nozzles

Custom-designed nozzles are available with normal pipe sizes from 1/4 to 2 inch, including 180º and 360º configurations.

APPLICATIONS

Computer suites, EDP facilies, Telecommunications hardware, Internet service providers, Server rooms, Control rooms, Railway signalling centres, Stores and archives, Heritage sites, Museums, Art galleries, Medical and laboratory equipment, Libraries, Petrochemical plants, Power generation, Universities and colleges.

Novec 1230 fluid complies with chemical notification requirements:

Europe - ELINECS
USA - TSCA, EPA, SNAP Listed
Canada - CDSL
Korea - KECI
Australia - AICS
China - CICS
Japan - METI

Design Standards:

ISO 14520
NFPA 2001
BS EN ISO 15004

Approvals

FM Global
UL
Manufactured to ISO 9001:2008

Kidde Fire Protection operates a continuous programme of product development. The right is therefore reserved to modify any specifications without prior notice and Kidde Fire Protection should be contacted to ensure that the current issues of all technical data sheets are used.

Novec is a trademark of 3M company.

Kidde Fire Protection, Thame Park Road, Thame, Oxon, OX9 3RT, United Kingdom
Tel: +44 (0)1844 265003
Fax: +44 (0) 1844 265156
E-mail: general.enquiries@kiddeuk.co.uk
Web: www.kfp.co.uk Ref: 6351-5-05/11