



# SAPPHIRE

Gaseous Fire Suppression Systems  
Delivering 3M™ Novec™ 1230 Fire Protection Fluid

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Gaseous Fire Suppression Systems

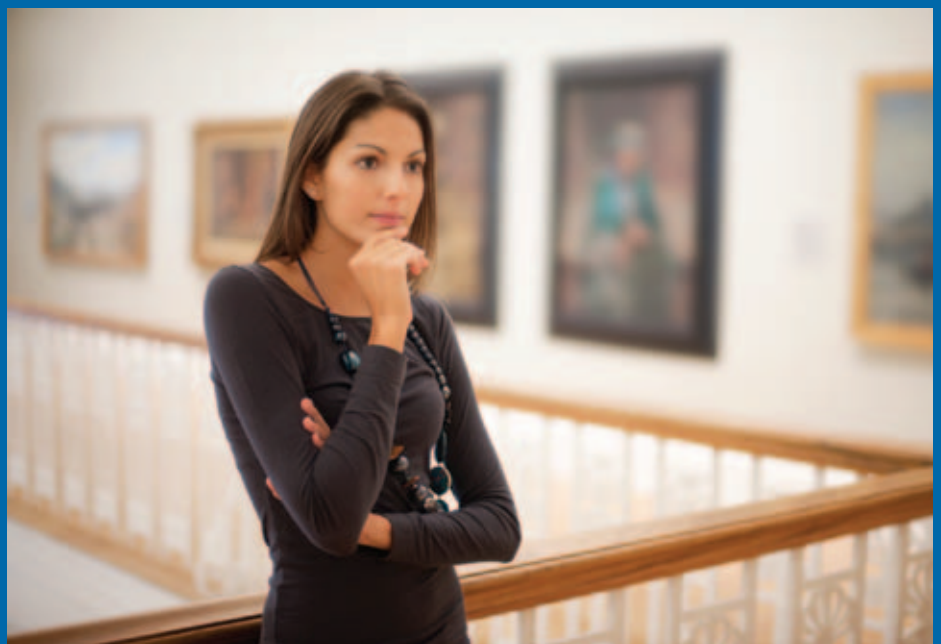
Delivering 3M™ Novec™ 1230 Fire Protection Fluid

*Tyco SAPPHIRE Fire Suppression System delivering 3M™ Novec™ 1230 Fire Protection Fluid is an environmentally friendly clean agent system, and the solution of choice for protecting people and high value assets.*

Tyco SAPPHIRE systems provide a proven and reliable fast acting, clean agent solution that is safe for use in occupied spaces. The system is environmentally friendly with zero ozone depletion potential (ODP) and negligible global warming potential (GWP).

Tyco SAPPHIRE systems are specifically designed and developed based on independently witnessed fire tests. It is listed as “acceptable without restrictions” by the US Environmental Protection Agency’s Significant New Alternatives Policy (SNAP).

Every Tyco SAPPHIRE installation carries a 20 year environmental warranty. For more information please contact your local approved Tyco distributor for full details.



## Protecting our world

Almost every aspect of modern life has a direct or indirect effect on the environment. With increasing demand for awareness and action regarding environmental issues, Tyco SAPPHIRE systems help reduce environmental impact. Novec 1230 fluid has zero ozone depletion potential and a global warming potential of just one. The atmospheric lifetime is between three and five days making Tyco SAPPHIRE an ideal solution without compromising the environment.

## Playing Safe

Tyco SAPPHIRE systems are ideal for use in occupied areas. Independent toxicity studies have established that the agent is very low in both acute and chronic toxicity with high safety margins between its normal use concentrations and the No Observable Adverse Effect Level (NOAEL).



## Fast acting suppression

Tyco SAPPHIRE systems work fast and are designed to rapidly absorb heat to the point where combustion ceases. Once actuated, Tyco SAPPHIRE systems deliver the extinguishant within 10 seconds, stopping fires before they have the chance to spread. Most importantly when a fire is suppressed quickly, the result is less damage, lower refurbishment costs and reduced downtime.

## Compact low pressure technology

Tyco SAPPHIRE systems are compact and operate at both 25 and 42 bar, and have been proven to achieve homogeneous distribution of agent at these pressures complying with international standards and meeting the requirements of approval agencies globally.

## System recharging

Filling and recharging Tyco SAPPHIRE systems is straight forward as the agent's high boiling point of 49°C means the agent can be transported in lightweight drums rather than pressurised containers. Air freighting and other transport methods are possible for transporting unpressurised Tyco SAPPHIRE containers.



## Agent comparison

Properties	Novec 1230	HFC 125	HFC 23	HFC-227ea
Ozone depletion potential (ODP)	0	0	0	0
Global warming potential	1	3,500	14,800	3,220
Atmospheric lifetime (years)	0.014	29	270	24.2
SNAP*	Yes	Yes	Yes	Yes

\*SNAP - Significant New Alternatives Policy (US EPA)  
Environmental data from 4<sup>th</sup> Assessment report of IPCC 2007 and EPA's tables of ozone depleting substances

A close-up photograph of a woman with dark hair, seen from the side, looking down at a young girl with blonde hair in pigtails. The girl is looking down and to the right. They are in a classroom setting with wooden desks and chairs. The text is overlaid on the image, framed by two white diagonal lines.

**Trusted  
gaseous  
solutions  
using  
pioneering  
technology**

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- // *Fast Acting*
- // *Easy to Refill*
- // *Compact Storage*
- // *Environmentally Friendly*
- // *Safe for People*
- // *International Approvals*

## Approvals

- // LPCB
- // CNPP
- // VdS
- // UL
- // FM
- // ABS
- // DNV
- // LLOYDS
- // BV
- // RINA
- // GL
- // ULC

**tyco**



# Global strength. Local expertise. At your service.

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