A revolution in fire suppression technology
A revolution is taking place in Fire Suppression. Developed from solid rocket fuel technology, Pyrogen is the world’s first commercially available Aerosol Fire Extinguishing System. Designed as a safe & practical alternative to Halon, Halocarbons, Chemical Powders and Inert Gases, Pyrogen is available from stock in a wide range of canister sizes. Pyrogen is an inert non-toxic solid that remains stable until electrically or thermally activated, whereupon it produces a gas-like extinguishing aerosol. The aerosol attacks the fire chemically and physically, giving virtual instant extinguishment & preventing re-ignition, and in certain instances, explosions. For many applications Pyrogen is the only practical alternative to Halon.

It really is rocket science
3 times more effective than Halon.
At a maximum* design concentration of 100g per m³ Pyrogen exhibits equal or better extinguishing properties than Halon 1301 at 330g per m³ (5% by volume), as certified by Scientific Services Laboratory. Pyrogen has the lowest extinguishing concentration amongst commercially available agents.

* Recommended maximum for Class A, B, C, E & F type fires. Refer to table on reverse.

Environmentally Friendly
Pyrogen has been certified as having Zero Ozone Depleting Potential (ODP) & Zero Global Warming Potential (GWP). It is officially listed by the US Environmental Protection Authority under its Halon replacement ‘Significant New Alternatives Program’ (SNAP).

No Pressurised Cylinders or Pipe work.
Pyrogen Canisters are self contained, zero pressure units. As well as being light & safe to transport, they require no additional pipes, nozzles or distribution equipment. They cannot leak, burst or deteriorate, and can be stored for up to 10 years without maintenance.

Tests & certification
Pyrogen has been tested by LPC, Scientific Service Laboratories (Australia) and is undergoing further certification worldwide. For the latest approval listings and test data please contact your nearest Pyrogen dealer.

Compact & Weight Saving.
Pyrogen canisters can provide the smallest & lightest fire extinguishing system currently available. With space requirements of up to 1/40th of inert gases, and weight penalties of often only 10% of competing systems, Pyrogen in many cases is the only practical Halon replacement.

Simple to Install & Recommission.
Pyrogen canisters are electrically (or automatically thermally) activated. Simple wiring & plug in connectors can reduce installation times to a 1/3rd or less. If discharged, new canisters may be reinstalled in minutes* affording minimal downtime and eliminate potentially hazardous periods of non-active fire suppression.

* Providing all and any necessary safety checks & inspections have been completed.

Low Toxicity.
Unlike some Halon alternatives, Pyrogen produces no aggressive acids such as Hydrogen Fluoride upon contact with hot surfaces. Pyrogen produces no chlorine or bromide and does not deplete oxygen to suppress the fire.

Cost Effective
With minimal space & weight requirements, simple installation, zero maintenance and up to 10 years service life, Pyrogen is arguably the most cost effective Halon alternative available.
The principle of extinguishing action employed by Pyrogen is unique - a special solid chemical, when electrically or thermally ignited, produces combustion products - micron size dry chemical particles and gases. Dry chemical particles, (mainly potassium carbonates), and gaseous mixture, (mainly carbon dioxide, nitrogen and water vapour), mix together into a uniform fire extinguishing aerosol. Before being released into a protected area, the hot aerosol propels itself through a unique solid chemical coolant, which decomposes absorbing huge amounts of heat, thus ensuring flameless discharge and uniform distribution of the cool aerosol within the area.

The high rate of aerosol discharge ensures a tremendous knock-down effect. Micron size aerosol particles exhibit gas-like three-dimensional qualities that allow the agent to rapidly distribute throughout enclosure and reach even the most concealed and shielded locations. Homogeneous distribution is achieved in a matter of seconds, while long holding times all help to prevent fire re-ignition.

**Pyrogen canister in action**

- **Electrical signal from control panel**
- **Canister heated ≥500°C**
- **Naked flame or heat ≥175°C via fire conducting cord**
- **Chemical coolant decomposes absorbing huge amounts of heat**
- **Fire fighting aerosol rapidly generated**
- **Decomposed chemical coolant**
- **Total flooding aerosol demonstrates 3D gas like properties. Holding times up to 60 minutes.**

**Pyrogen aerosol is a chemical action agent**

- **Stage 1** Fire is propagated by the flame chain carriers O, H & OH
- **Stage 2** Pyrogen aerosol introduces potassium radicals (K) into the flame chain reaction
- **Stage 3** K radicals attach themselves to O, H & OH and remove them from the flame chain without depleting Oxygen

**How it works**

- Electrical cabinets
- Military vehicles
- Shipping and marine
Canister Characteristics
- Canister Material: Marine Grade Aluminium Alloy
- Surface Treatment: Powder Coated (red)
- Max/Min Ambient: -50ºC ~ +60ºC
- Shock: Tested at 10g for >13,000 impacts
- Vibration: 5g @ 50~250Hz
- Corrosion Resistance: Greater than UL 1058
- Impact Resistance: IP658
- Humidity: ≤96%

Aerosol Characteristics
(at maximum design concentration)
- Potassium Carbonates, solid: ~ 7g/m³
- Nitrogen Gas: ~ 70% by vol.
- Carbon Dioxide Gas: ~ 1.2% by vol
- Carbon Monoxide Gas: ~ 0.4% by vol
- Nitrogen Oxides, Gas: 40 – 100 ppm
- Ammonia, Gas: ~ 0.075% by vol
- Temp at Nozzle + 500mm: ≤75°C
- Oxygen (level): 17% to 20% (typical)
- Holding time: ≤60 mins

Electrical (Thermal) Characteristics
- Supervision/Monitoring Circuit: ≤1mA
- Activation (Electrical): ≥400mA @6/12/24v for 10mS
- Activation (Thermal): ≥175°C
- Connector: 4 pin Military Type 2 PMDT Analog MIL-C-5015

Comparison table

<table>
<thead>
<tr>
<th>Agent</th>
<th>Formula</th>
<th>%</th>
<th>TOXICITY</th>
<th>ODP</th>
<th>GWP (100yrs vs CO2 = 1)</th>
<th>Atmospheric lifetimes (yrs)</th>
<th>Extinguishing concentration (Class B fires)</th>
<th>g/m³</th>
<th>Mechanism of fire suppression</th>
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* Pyrogen has been certified as low toxicity by the Academy of Science & Biophysics Institute, Moscow.
Installation data

Available sizes

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<th>MAG-2</th>
<th>MAG-3*</th>
<th>MAG-4</th>
<th>MAG-5*</th>
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</tbody>
</table>

* MAG 3 and MAG 5 are available in ‘grenade’ format for manual fire fighting

Health & Safety Statement

Primarily due to the high obscuration, PYROGEN is designed for use in normally unoccupied areas such as data rooms, machinery and engine spaces, control cabinets and storage areas. Inadvertent exposure to the aerosol should be avoided using normal precautions such as warning signals, pre-discharge alarm and post-discharge warning and venting. Accidental exposure to aerosol should be limited to 5 minutes.

As obscuration may impede the egress of personnel, hold off devices may be required for large areas or those with internal obstructions. Further details on the safe application, installation, operation and recommissioning of PYROGEN systems is given in the design manual and a manufacturers safety data sheet is available upon request.

Pyrogen kits
Pre-engineered kits for marine and vehicle applications

Fire panels
Purpose built Pyrosafe fire control and alarm panels

Accessories
A complete range of accessories to facilitate complete installations

CD rom
A CD or video is available to clearly demonstrate Pyrogen’s versatility

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