

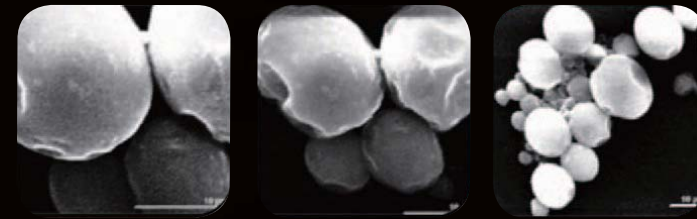
Fire Safety Protection at the Point of Ignition is Innovative Concept Realized by Simplest Installation: Nanotechnology Smart

Core Technology of AFiX

Microencapsulation of Fire Extinguishing Chemical Agent based on Nanotechnology

«Manufacturing technology of micro and nano sized fire extinguishing chemical agent»

- In order to protect active fire extinguishing chemical agents from the surrounding environment, this fine particle is encapsulated and stored in a polymer shell
- The chemical agents stored in the capsule with a typical size of 1 to 10 μ (micrometer) are automatically released from the capsule, reacting to the set temperature rise, promptly injected and extinguishing.



Features of AFiX fire extinguisher

- Patents* and proprietary special technical products
 - * 1. Fusion of polymer compound and nano coating technologies, 2. High tech to store fire extinguishing chemical agents in capsule, 3. Automatic sensing of temperature rise in case of fire and releasing active fire extinguisher chemical agent in capsule
- Variety of designs can be easily adopted as products
- Autonomous mode is integrated and AFiX extinguishes fire as soon as the temperature rises, no power supply necessary (unmanned early fire suppression at the point of ignition)
- Easiest installation even in a small, narrow space (sticker type)
- Used a clean chemical extinguishing agent which is harmless to the human body and has an ozone layer destruction index of 0 (zero).
(HFC 227 ea, chemical formula $CF_3-CHF-CF_3$, molecular weight 170.03, boiling point $-16.36^\circ C$.)
- After fire extinguishment, there is no residue, the product does not damage surrounding properties at all
- Maximum effect at low price, remarkable cost saving in installation and maintenance
- Protect valuable IT equipment with chemical extinguishing agent.

Chemical Extinguishing Agent (HFC227ea) of AFiX fire extinguisher

- Fit in places where electrically nonconductive fire extinguisher is required and where problems are likely to occur after release of extinguishing agent. The extinguishing agent can be used safely even in residential space.
- The Ozone Depletion Potential (ODP) is 0 (zero); environment friendly.
- The best extinguishing agent among Halon 1301's alternatives recommended by the US governmental Environmental Protection Agency (EPA)
- First extinguishing agent approved by US UL (Underwriter's Laboratories) for the compound
- Fire extinguishing agent officially approved by US FM (Factory Mutual)
- Human toxicity is at a level equivalent to that of Halon 1301 fire extinguisher and the least among the eight clean extinguishing agents recommended by NEPA-2001
- Like fire extinguisher with Halon 1301, HFC227ea is safe to protecting objects such as electronic products and IT equipment
- Clean, no residue, no need for extensive costly cleaning after fire, protecting expensive facilities from fire, minimizing downtime.

Automatic Fire Extinguisher AFiX

AFiX pioneered varieties of unprecedented applications such as fire risk suppression at the points of ignition in complex spaces



- Triggered in Full Automatic Mode, functioning as an automatic fire extinguisher
- Required neither electric power nor mechanical devices, offering simplest installation, minimized space, no construction damage, based on sticker adhesion type
- Clean fire-extinguishing chemical agent is used (internationally approved) not harming human body or environment
- No residue after extinguishing, no after-effect on other equipment
- Special treatment has realized efficacy not-affected by moisture (applicable in underground switchboard, distribution board, electric control box, all products with electrical contact points)

Typical Applications

- ① Tower building passageway lamp



- ③ Pharmaceutical company conditioner panels in electric room



- Electrical switchboard for LED lighting board in EPS



- ④ Steel factory EPS power cases



- ② Television station Communication control devices



Other applications include but not limited to; automobile factory, railway technology research institute, logistics warehouse, etc.