



FFX

Fluorine-Free eXtinguishing

FFX[®] Lion: fluorine-free super cooling & wetting premix for control of lithium battery fires



Fluorine-free super cooling & wetting additive for control of lithium battery fires

FFX® Lion is a fluorine-free, water additive with outstanding cooling, wetting and spreading properties that has been specifically designed to control lithium battery fires. Its unique surface-active properties offer fast cooling and temperature control, thereby avoiding thermal runaway.

Approved according to NTA 8133:2021 and certified by Kiwa Nederland BV

Growing use of lithium batteries

Since its commercial launch in the 1990s, high-energy density of lithium batteries have been used in many types of household and industrial applications like electric screwdrivers, laptops, smartphones and flashlights.

More recently, the capacity, size and scope has significantly increased and they are now widely used in many larger

electrical appliances, as well as e-bikes and e-scooters.

Due to their high energy density, lithium batteries present a variety of fire hazards that demand superior fire protection.

High efficient performance

FFX® Lion is highly efficient in controlling lithium batteries and has outstanding cooling, wetting and spreading properties on class A fires (wood, recycling waste, plastics, rubber and tires). Acting as a wetting agent, it penetrates the surface of A class fire material, while the spreading properties enable the agent to extinguish the fire efficiently. Expected Fire ratings :

9L extinguisher is suitable to extinguish 600 Wh lithium batteries and 27A.

How do lithium fires start?

Lithium fires can start through:

~ Internal manufacturing defects (material defects, construction, contamination)
 ~ Physical damage (during assembly, shipping, handling, waste disposal, accidental during product use)

~ Electrical abuse (overcharging, over – discharging, short circuit)

~ Thermal abuse (exposure to high temperatures)

As the size of the battery increases, the selection of the best containment method becomes more complicated.

Applications

FFX® Lion can be used in fire extinguishers and with all conventional fire brigade equipment, inline- inductors, water branch pipes as well as spray nozzles.

Biodegradable material

FFX® Lion is considered as being biodegradable and having minimal environmental impact, being non-toxic to humans, fish and animals.

Importantly, FFX® Lion is a non-fluorinated ready-to-use premix

Properties

Spreading and wetting

The unique and outstanding cooling, wetting and spreading properties of FFX® Lion are enabled by selected surfactants, as well as innovative additives.

Storage

It is recommended that FFX® Lion is stored in its original closed shipping containers at a temperature between 0°C and +50°C. It should be both covered and protected from sunlight in order to maintain its original physical and chemical characteristics.

Packaging

FFX® Lion is available in:

- ~ 20 kg cans
- ~ 200 kg rums
- ~ 1000 kg containers

Fire class	A & Lithium battery
Usage concentration	Ready to Use
Specific gravity (20°C)	1.01 +/- 0.01 g/cm ³
Freezing point	0°C
pH (20°C)	6.0 - 9.5

We reserve the right to improve our products within the tolerances being compliant to approval without prior notice.