



DIAMOND DOSER

POWERED BY FIREMIKS



Industrial Protection

The Versatile Hazard Solution

The global lithium-ion battery market size is projected to grow from USD 41.1 billion in 2021 to USD 116.6 billion by 2030. Lithium-ion batteries continue to be utilized heavily in **Personal Electronics** such as smartphones, power tools and digital cameras.

Demand continues to skyrocket in the **Transportation** industry for utilization in passenger cars, trucks, buses, railway systems, aircrafts and much more. **Manufacturing** sectors and **Solar Power** are likely to surge as well with the rising need for mass **Energy Storage Systems (ESS)** to fuel the world's growing need for lithium-ion energy to transform **Power**. As utilization increases, so do hazards faced by the **Waste & Recycling** industry as lithium-ion batteries and various lithium-ion battery powered electronics find their way into these facilities.



Multi-class hazard protection is a must in today's world of complex synthetic materials as well as the rise of lithium-ion battery hazards.



Diamond Doser Package System



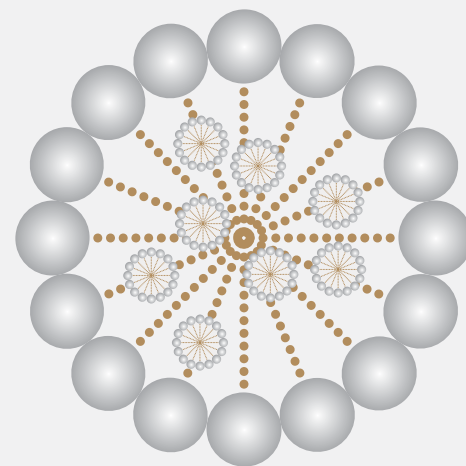
The complete industrial
fire suppression system solution.

An eco-friendly
multi-class agent
for all industrial
hazards.



A reliable,
easy-to-use agent
proportioner driven
by water flow.

Encapsulator Agents



NFPA 18A 7.7

Encapsulator - Spherical Micelle Stability Test

“This section covers the test procedures to evaluate the ability of a water additive solution to form and maintain stable spherical micelles capable of encapsulating combustible and flammable liquids (nonpolar and polar), rendering the flammable liquids nonflammable, nonignitable and nonexplosive and maintaining that encapsulation in the presence of high heat over an extended period of time.”

Encapsulator Agents work on all four legs of the Fire Tetrahedron at once, removing the heat, neutralizing the fuel by separating it from the oxygen on a chemical molecular level and interrupting the free radical chain reaction.



F-500 EA is mentioned under NFPA 18A Annex 4.3, Encapsulator Agents.

“Water additives based on spherical micelle technology (Encapsulator Agents) conforming to Section 7.7 have been tested extensively by independent third-party testing organizations, including Kiwa, Dekra, Daimler, Dutech, Bosch, Fraunhofer Institute and TU Clausthal.

This testing has been controlled, scientific and highly instrumented, documenting fire suppression, control and elimination of thermal runaway and encapsulation of both flammable electrolyte and other explosive off-gases, rendering them nonexplosive.

Encapsulator Technology reduces the toxicity of HF gas exposure to humans.

Third-party Tested Agent

F-500 Encapsulator Agent (F-500 EA)

F-500 EA works on a chemical molecular level, effectively extinguishing Class A, B (Polar & Non-polar), C, D, K and Lithium-ion Battery fires without the use of fluorinated ingredients. F-500 EA is fluorine free, biodegradable and noncorrosive, making it the economical and environmentally friendly option.

F-500 EA is backed by over a decade of third-party testing, including testing completed by KIWA Institute, a global specialist in testing, inspection and certification in the Netherlands, Fraunhofer Institute and TU Clausthal located in Germany. Testing overseen by HCT Europe points to one conclusion:

F-500 EA is proven to stop thermal runaway, safely extinguishing lithium-ion battery fires and greatly reducing the risk of re-ignition.



Diamond Doser systems are available in multiple sizes and flow rates for your convenience. Fixed and mobile options are tankless, hooking up to your Encapsulator Agent tote for convenience.

- ▣ **5G Pails**
- ▣ **55G Drums**
- ▣ **250G Totes**
- ▣ **275G Totes**



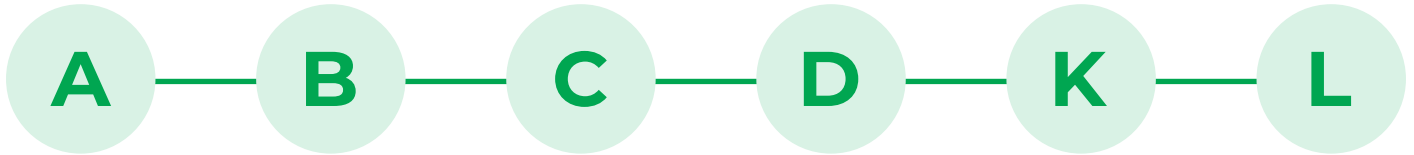
Encapsulator Agent System Benefits



vs. Foam Systems

| <i>Benefit</i> | <i>Foam</i> | <i>Encapsulator</i> |
|---------------------|-------------|---------------------|
| <i>Class A</i> | ✓ | ✓ |
| <i>Class B (2D)</i> | ✓ | ✓ |
| <i>Class B (3D)</i> | ✗ | ✓ |
| <i>Class D</i> | ✗ | ✓ |
| <i>Class K/F</i> | ✗ | ✓ |
| <i>Lithium-ion</i> | ✗ | ✓ |

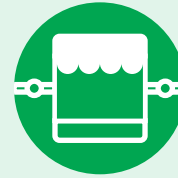
Diamond Doser System Benefits



Solution Flow
Wide Flow Range
No Concentrate Waste



System Power
No Power Source Needed
Energy Efficient



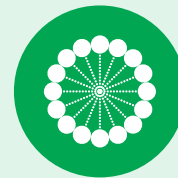
Concentrate Tank
Large Capacity
Accurate Dosage



Maintenance
Minimal Maintenance
Easy Refill Post-discharge



Expense
Economical Investment
Economical Re-certification



Encapsulator Agents
Multiple Applications
Lithium-ion Battery Protection



Hazard Control Technologies, Inc.

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