Data Center and Telecom Facility Fire Protection

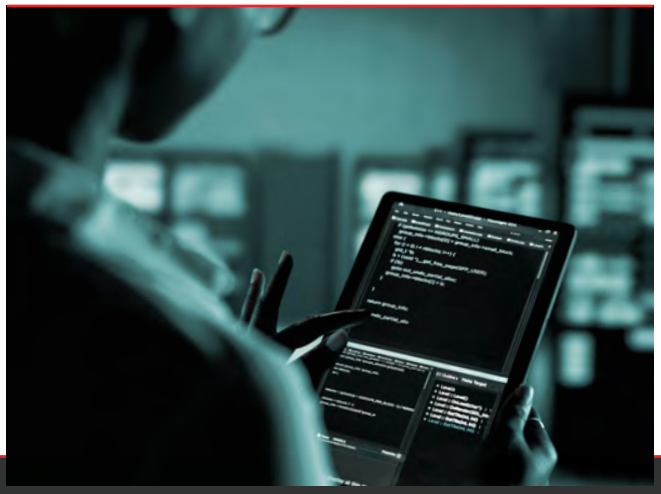
with F-500 EA® Micelle Mist

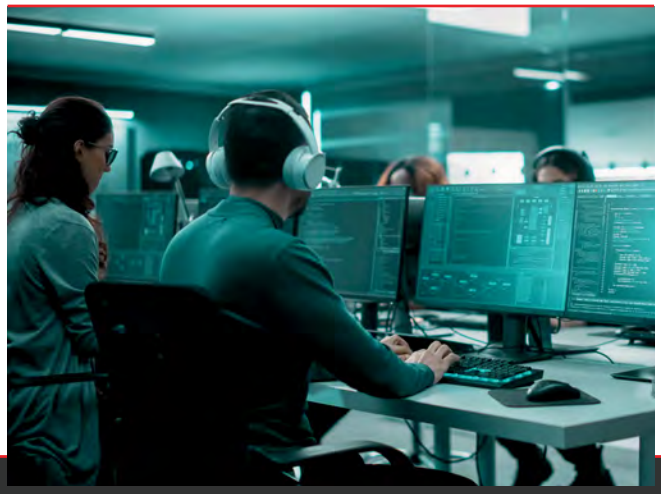
Data Centers Rely on Lithium-ion Battery Power

Lithium-ion batteries are increasingly powering data centers, offering higher energy density, faster charging, and longer lifespans than lead-acid alternatives. These advantages reduce costs but also introduce new risks—requiring updated fire protection and insurer involvement.

Creating Health and Safety Concerns for Industry Leaders, First Responders, and Rural Communities

These systems support Uninterruptible Power Supply (UPS), delivering immediate backup during outages or fluctuations and ensuring servers stay online long enough for orderly shutdown or generator startup, safeguarding data integrity and business continuity at data centers.

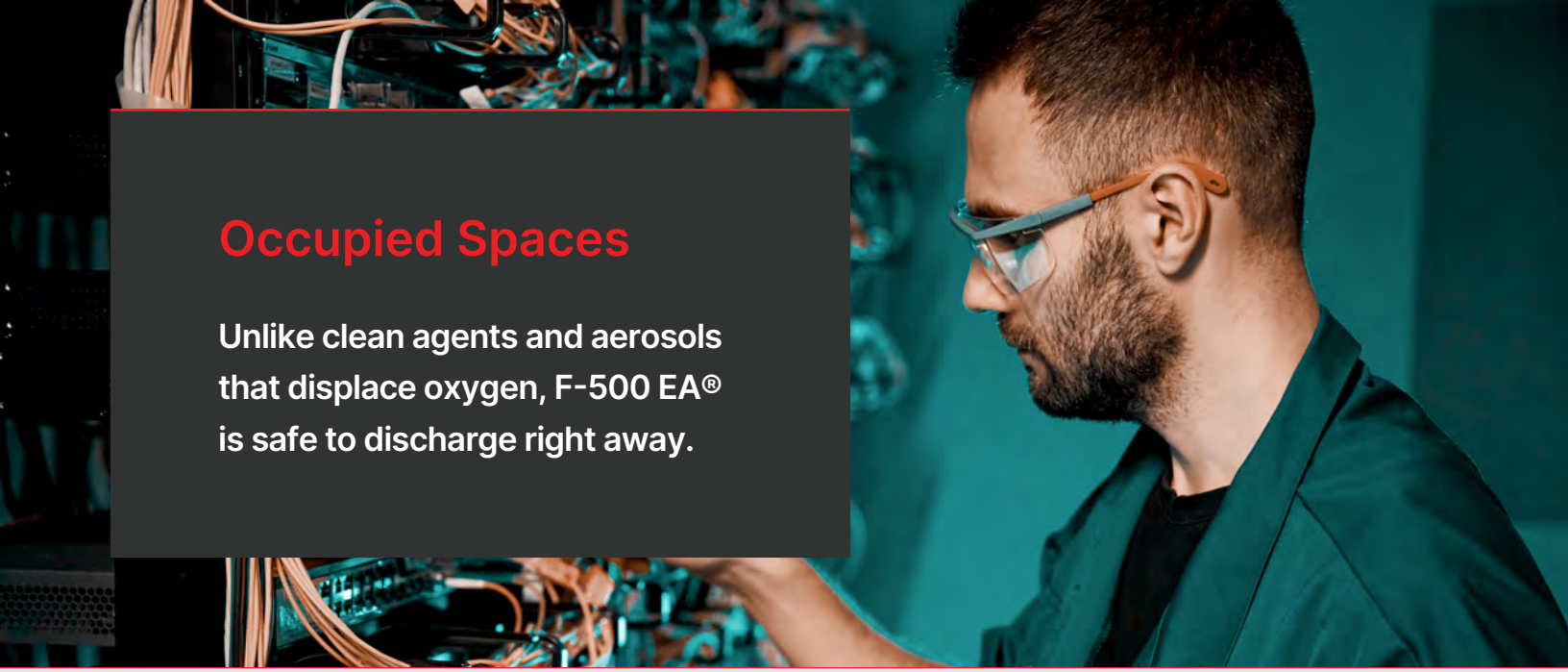




NFPA 18A Annex 4.3

This standard recognizes close to two decades of proven lithium-ion battery fire testing utilizing Encapsulator Agents.

Carried out by some of the world's most crucial power players, results from these tests demonstrate F-500 EA®'s ability to consistently and effectively mitigate life-threatening telecom risks.



Occupied Spaces

Unlike clean agents and aerosols that displace oxygen, F-500 EA® is safe to discharge right away.

Comparing

F-500 EA® with Clean Agents

	Clean Agents	F-500 EA®
Application Method Single and Continuous Discharge	Single Discharge Only	✔
Agent Versatility Flammability, Explosivity, and Toxicity	Flammability Only	✔
Enclosure Requirement Contained and Open Spaces	Contained Spaces Only	✔
Environmental Impact Fluorine-free and Biodegradable	Varied	✔

F-500 EA® Micelle Mist

The Complete Solution Proven to Stop Thermal Runaway Propagation

100-350
Microns

Early Detection for Rack Fire Containment

F-500 EA® Micelle Mist Targets Flammability, Explosivity, and Toxicity

Encapsulator Agents change the composition of a plain water droplet with the introduction of spherical micelles.

This allows Encapsulator Agents like F-500 EA® to extinguish fires that can't be fought effectively with water mist alone. Rack enclosures are prone to explosions, highlighting the need for technology capable of not only extinguishing battery fires, but encapsulating hazardous vapors.

Conclusion

Water mist fire protection with F-500 EA® as a water additive can better suppress rack fires.

Reviewing

NIOSH Testing with F-500 EA®

The NIOSH Pittsburgh Mining Research Division conducted a study evaluating the effectiveness of water mist with and without F-500 EA® on two lithium-ion battery packs.

12V with Water Mist

Average of 250°C → 75°C in 200 Seconds

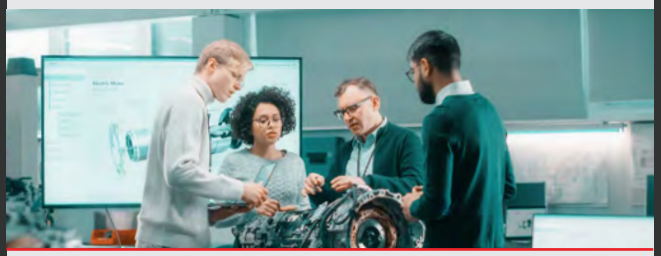
12V with F-500 EA®

Average of 250°C → 25°C in 200 Seconds

F-500 EA®
Testing Chronology

> View Full History

2008
Bosch
Official Reference Customer



2012
DEKRA
Tested and Recommended

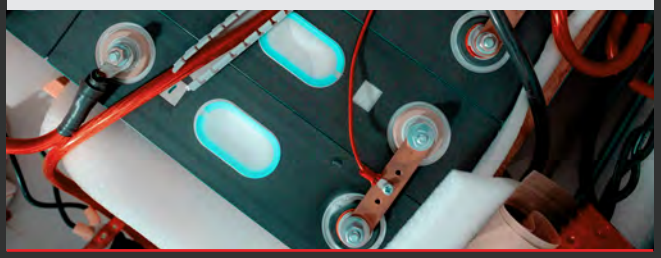
2012
Formula 1
Specified for Circuits

2017
KIWA
Tested for Johnson Controls

2015
General Motors
Specified for Battery Abuse Labs

2016
Tesla
Specified for Charging Stations

2024
Marine Science and Engineering
Passed UL 9540A Testing



2022
NFPA
NFPA 18A Standard Published

2023
Applus+
Applus+ Approved & ETI Certified

Hazard Control Technologies, Inc.

Since 1997

We're revolutionizing fire suppression, vapor mitigation, spill control, and contamination response with our flagship Encapsulator Agent, F-500 EA®. Manufactured in the USA, we're trusted worldwide to address today's high hazards with a formula that's always been fluorine-free, biodegradable, and noncorrosive. It's clear to see why F-500 EA® is still encapsulating the world.

Learn more at www.hct-world.com or call +1 (770) 719-5112.

Street Address
150 Walter Way
Fayetteville, GA 30214

Mailing Address
P.O. Box 142879
Fayetteville, GA 30214