



# Fighting Firefighter Cancer with F-500 EA®





# CANCER RISK AMONG FIREFIGHTERS

A review and meta-analysis of thirty two studies from the Department of Environmental Health at the University of Cincinnati.

## STEP ONE

## **AWARENESS**

According to the Firefighter Cancer Support Network (FCSN), modern residential house fires have more in common with hazmat incidents than with legacy house fires. Contents are made up primarily of synthetic materials that produce toxic smoke and soot. The risk of firefighter cancer doesn't end after you leave the fire ground. Toxins are absorbed through inhalation, dermal absorption, and ingestion. It has never been more important to take a stand and support our peers. Together, we can change the culture of yesterday and adopt a more proactive approach to fighting firefighter cancer.

People think soot is benign, but it's not, and firefighters come back from a fire covered in soot. Soot isn't just dirty, it's dangerous. Soot in their hair or on their skin could leach toxic chemicals into their bodies. Every smear could release toxic gases long after the fire is out.

## **DR. GRACE LEMASTERS**



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# INCREASED CANCER RISK

Firefighters have a 9% higher risk of being diagnosed with cancer and a 14% higher risk of dying from cancer than the general U.S. population.

## FIREFIGHTER CANCER SUPPORT NETWORK (FCSN)

# PREVENTION TRAINING

## 3-HOUR COURSE

<b>CLASSROOM</b>	<b>60 MINUTES</b>
<b>FIRE GROUND</b>	<b>90 MINUTES</b>
<b>DECON</b>	<b>30 MINUTES</b>

## STEP TWO

# EDUCATION

Once we've identified the hazards faced on a daily basis in your municipality, it's important to combat the threat of firefighter cancer head on. Our team of Encapsulator Technology Specialists are well versed in firefighting techniques. Much of our team is comprised of retired firefighters and fire chiefs intimately familiar with the risks associated with professional firefighting. We believe in thorough field training that balances a combination of traditional classroom training as well as live burns. We'll work to demonstrate best practices for optimal safety and health benefits while using F-500 EA®.

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# CLEMSON REPORT

A report published by the Department of Environmental Health at Clemson University in Clemson, South Carolina.

This testing measured the amount of toxic soot, smoke, and vapors present while using an F-500 EA® solution for fire extinguishment as well as the difference in visibility.



## F-500 EA®

# TEST RESULTS

<b>TOXIC SOOT</b>	<b>97% LESS</b>
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<b>TOXIC SMOKE</b>	<b>98.6% LESS</b>
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<b>VISIBILITY</b>	<b>68% MORE</b>
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EXPLORING

## VERSATILITY

**UTILIZE A 0.5% - 1%  
F-500 EA® SOLUTION FOR  
NFPA 1851 COMPLIANT  
ON-SCENE DECON**



<b>CLASS A MATERIALS</b>	<b>0.5% - 1%</b>
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<b>CLASS B FUELS [POLAR + NON-POLAR]</b>	<b>3%</b>
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<b>ENERGIZED ENVIRONMENTS</b>	<b>3%</b>
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<b>CLASS D METALS</b>	<b>3%</b>
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<b>LITHIUM-ION BATTERIES</b>	<b>3%</b>
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NFPA 18A

## ENCAPSULATOR AGENTS (EA)

### SECTION 7.7

This section covers the test procedure to evaluate the ability of a water additive solution to form and maintain stable spherical micelles capable of encapsulating combustible and flammable liquids (polar and non-polar), rendering the flammable liquids non-flammable, non-ignitable, and non-explosive and maintaining encapsulation in the presence of high heat over an extended period of time.

### SPHERICAL MICELLE STABILITY

## F-500 EA® BENEFITS FOR FIREFIGHTERS

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Encapsulator Agents are versatile agents, excelling at both fire suppression and spill control while remaining fluorine free, noncorrosive, and biodegradable. F-500 EA® has a proven history of proactively reducing the concentration of carcinogens in soot and smoke to ensure a safer environment for both first responders and trapped civilians.

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# FIRE SETTING REPORT

“The use of Encapsulator Agents significantly reduces the amount of water required to extinguish a fire.”

“Its use from day one could have minimized the amount of water used, production of smoke, and number of hours worked by firefighters, but above all its use could have prevented the inhalation of carcinogenic fumes by our personnel.”

“The committee is confident that the encapsulating agent reduces firefighter’s exposure to carcinogenic contaminants. Furthermore, it’s also effective for Class B, Class C, and Class D fires while water should not be used on these fires. For these reasons, we are moving forward with the use of an Encapsulator Agent to prevent cancer in Laval Firefighters.”

**LAVAL FIRE DEPARTMENT**

## STEP THREE

# PREVENTION

### REACTIVE

Fire departments take part in many reactive practices, including performing on-scene decontamination on turnouts and exposed skin utilizing decon wipes, brushes, and bags before showering.

### PROACTIVE

F-500 EA® offers a proactive solution when used on every call. Carcinogenic toxins in soot, smoke, and vapor are drastically reduced at the nozzle while fighting the fire.

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# MENTAL HEALTH

One in three people with cancer experience mental or emotional distress. It is most common in breast cancer (42%) and head and neck cancer (41%) patients.

Up to 25% of cancer survivors experience symptoms of depression and up to 45% experience anxiety.

Many cancer survivors also experience symptoms meeting criteria for Post-traumatic Stress Disorder (PTSD).

Cancer survivors are twice as likely to die by suicide than the general population.

**NATIONAL BEHAVIORAL  
HEALTH NETWORK FOR  
CANCER CONTROL**

## STEP FOUR

# LEADERSHIP

When we discuss the complications of Firefighter Cancer, it's important to recognize the impact a diagnosis can have on your mental health as well. It is crucial that we support one another and ensure relevant resources are readily available to Firefighters as well as their family members. Leadership is encouraging each other to seek help when it's needed and removing the stigma associated with receiving mental health services. According to the National Behavioral Health Network for Tobacco & Cancer Control, this step is imperative to ensuring a better quality of life as well as minimizing suicide rates among diagnosed individuals.

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