

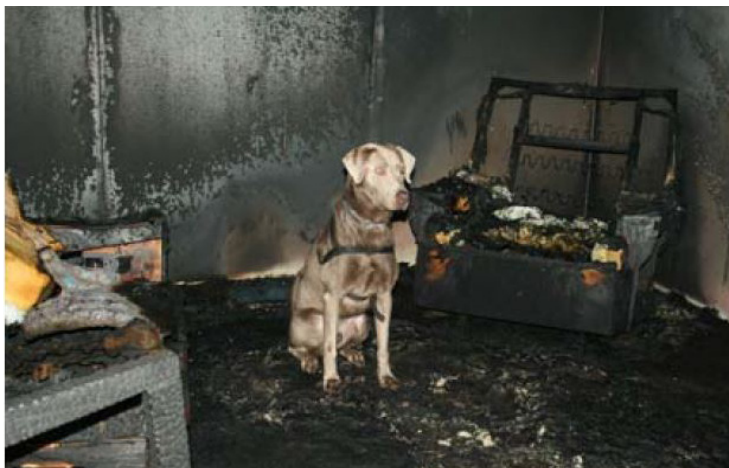


F-500 Encapsulator Technology Beneficial for Arson and Fire Investigators

Fire and arson investigators have one of the most important and dangerous jobs in the fire service today. While there are obvious risks when it comes to fighting fires, investigating their cause can prove to be deadly as well. Dangerous carcinogens float in the air as toxic smoke and soot arise from recently extinguished fires. The municipal fire service and fire investigators now have a technology that reduces that exposure, Encapsulator Technology. Tests using F-500 Encapsulator Agent conforming to NFPA 18A, Section 7.7 have shown that it can eliminate up to 98% of the toxins from smoke when compared to plain water. The concern for investigators, however, is that agents can mask the presence of accelerants in substrate material.



Fire Investigator Searching for Evidence



K9 Shadow Making a Positive Indication for Ignitable Liquid

F-500 Encapsulator Agent was tested as a means to explore the potential impact on the ability to identify accelerants in fire debris. The New York State Academy of Fire Science in Montour Falls, the Office of Fire Prevention and Controls Arson Bureau, and the New York State Crime Laboratory Arson Technical Group all participated in analyzing a series of samples as well as taking part in a mock burned fire scene. The purpose of the exercise was to establish the ability of canine teams and fire investigators to do their job when fire debris was subject to F-500 Encapsulator Agent.

In 2008, three different tests were conducted with F-500 EA. These tests included using wooden blocks with accelerants on them being extinguished by F-500 EA. These were compared to plain wooden blocks put out by water. Also, a live fire room was burned with gasoline. A team of dogs sniffed the room beforehand to make sure there were no trace amounts of fuel left. The room was torched and fire was allowed to spread freely. It was then extinguished with a 1% solution of F-500 EA. The tables to follow indicate the results for some of these tests, including lab findings and Accelerant Detection Canine Team findings.

Crime Lab Analysis – Erie County [13 samples]

% of F-500 in Water	Light	Medium	Heavy	Control Block
Water - 0%	+	+	+	-
.5%	+	+	+	
1%	* N/A	* N/A	* N/A	
3%	+	+	+	

- + Positive Finding for Ignitable Liquid
- Negative Finding for Ignitable liquid
- * N/A test could not be completed due to lab instrument breakdown

Crime Lab Analysis – Monroe County [13 samples]

% of F-500 in Water	Light	Medium	Heavy	Control Block
Water - 0%	+	+	+	-
.5%	+	+	+	
1%	+	+	+	
3%	+	+	+	

- + Positive Finding for Ignitable Liquid
- Negative Finding for Ignitable liquid

Crime Lab Analysis of Wooden Block Samples

Canine Accelerant Detection Olfactory Analysis

[Monroe County Laboratory Analysis Phase I Evolution A samples utilized]

% of F-500 in Water	Light	Medium	Heavy	Blank
Water - 0%	+	+	+	-
.5%	+	+	+	
1%	+	+	+	
3%	+	+	+	

- + Positive Finding for Ignitable Liquid Vapor Residue
- Negative Finding for Ignitable Liquid Vapor Residue

Canine Detection Team Analysis of Wooden Block Samples

The results were conclusive. F-500 EA had no effect on the ability of fire and arson investigators to detect the accelerants used in the testing. Canine teams were also able to detect the accelerants effectively. "In summary, each of the three phases of testing resulted in a conclusion that ignitable liquids could be detected with reasonable accuracy by both the forensic crime laboratory and the certified Accelerant Detection Canine Team after being subjected to extinguishment with an F-500 EA water solution."¹

Another test was performed in 2002 by the Centre of Forensic Sciences in Toronto, Ontario. These tests also came to the same conclusion: F-500 EA "does not preclude the detection or identification of common ignitable liquids in fire debris samples."²

F-500 EA also does not contain any components

that pollute the environment, such as dangerous fluorines including PFOA and PFOS. Contact Hazard Control Technologies today to put the engineered advantage of F-500 EA in use to protect your firefighters and arson investigation team and allow them to perform their jobs with consistency, accuracy, and safety.

ATWG Group 2 Room & Contents Burn F-500 Phase III Practical Exercise	K9 Findings for Ignitable Liquid Vapor Residue	Laboratory Findings for Gasoline		Forensic Laboratory
		Positive	Negative	
Sample 1	Positive	X		Monroe County
Sample 2 / Comparison of 1	Negative		X	Monroe County
Sample 3	Positive	X		Erie County
Sample 4 / Comparison of 3	Negative		X	Erie County
Sample 5	Positive	X		Erie County
Sample 6	Positive	X		Erie County
TOTAL Evidence Samples		4	2	

Analysis of Live Burn Room - Lab Testing and Canine Detection Team

1. NYS Office of Fire Prevention and Control, F-500 EA Forensic Report
2. Journal of Forensic Sciences - Affect of F-500 EA on Fire Investigations



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