



Section: Operations

Section No: 2.12

Title: F500 Encapsulating Agent

Page: 1 of 3

Date: April 28, 2023

Authorized By:

## I. Purpose

To define the safe and effective use of F500 encapsulating agent while operating during fire attack. Also, to outline the proper filling, storage, training and documentation of the agent.

## II. Application

F500 Encapsulating agent is a liquid concentrate that is noncorrosive, nonhazardous, and biodegradable and must be combined with water during application. F500 works by absorbing heat 6-10 times faster than plain water. Unlike foam, which works in a blanket technique to separate the fire from the oxygen, F500 works by encapsulating the fuel and vapors, rendering them non-flammable. In addition, F500 interrupts the free radical chain reaction, which provides increased visibility by reducing the smoke, soot, and other toxins. c. When operating on a fire scene, regardless of the type of fire, units shall utilize F500 encapsulating agent to assist in extinguishment/exposure control. These incidents include but are not limited to: structure fires, vehicle fires, brush/wildland fires, exposure control, and encapsulating large spills for the purpose of vapor control. The maximum percentage of F500 that can be used in any application is 3%.

The following classes of fires shall have F500 utilized when available at the following percentages:

- Class A (Ex: wood, paper, structure fires, wildland fire) - Percentage should vary between  $\frac{1}{2}$  to 1% unless combined with another class of fire requiring a higher percentage.
- Class B (Non-Polar and Polar) - 3%
- Class D (Ex: Magnesium, Titanium, Aluminum) - 3%
- Lithium-Ion Batteries and Energy Storage Systems - 3%

## III. Filling

F500 should be filled into a clean foam tank. Due to the potential for incompatibility of other agents or products, it is recommended not to mix any agents. Though F500 will not create a violent or hazardous reaction if it comes in contact with another agent, Hazards Control Technologies recommends that the foam tank is drained and flushed of any other agent prior to filling with F500.

- 
- ☐ This replaces page \_\_\_\_\_, Section \_\_\_\_\_, Dated \_\_\_\_\_
- ☐ This is a new page



# PRINCE GEORGE FIRE AND EMS

Section: Operations

Section No: 2.12

Title: F500 Encapsulating Agent

Page: 2 of 3

Date: April 28, 2023

Authorized By:

During daily apparatus checks, ensure the F500 tank is full. If no F500 tank is present, ensure F500 tank batch mixing has been completed in the desired apparatus (Brush Trucks, EUVs, and Tankers). d. When the incident is terminated, refill the F500 tank or batch mix accordingly.

## IV. Storage

Recommended storage temperatures for F500 are 35°F – 120°F if stored in the manufacturer's shipping containers. When pre-mixed with water at any percentage, it should be protected from freezing temperatures, the same as plain water. F500 has a recommended shelf life of 15 years and should not be used operationally once beyond that date.

## V. Documentation and Reporting

The use of F500 Encapsulating Agent must be documented and reported on the PGFEMS reporting platform. This documentation should include:

- a. The amount of F500 used
- b. The percentage of F500 used
- c. The type of fire in which F500 was used
- d. Any other pertinent information related to the use of F500

This documentation will help the fire department monitor the effectiveness and efficiency of the use of F500 Encapsulating Agent and make any necessary adjustments to their policies and procedures.

## VI. Training

All personnel who may handle F500 Encapsulating Agent must receive appropriate training on its safe and effective use. This training should cover the following topics:

- a. The properties of F500 and its potential hazards
- b. Proper handling, mixing, and application of F500
- c. The recommended personal protective equipment to be used when handling F500
- d. Procedures for responding to spills or leaks of F500

- 
- ☐ This replaces page \_\_\_\_\_, Section \_\_\_\_\_, Dated \_\_\_\_\_
- ☐ This is a new page



# PRINCE GEORGE FIRE AND EMS

Section: Operations

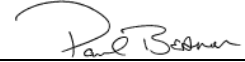
Page: 3 of 3

Section No: 2.12

Date: April 28, 2023

Title: F500 Encapsulating Agent

Authorized By:



- e. Compatibility with other firefighting agents or products
- f. Documentation and reporting requirements
- g. Proper disposal of F500 and its containers

- 
- ☐ This replaces page \_\_\_\_\_, Section \_\_\_\_\_, Dated \_\_\_\_\_
  - ☐ This is a new page