



INTRODUCTION: TRPL-E ENCAPSULATOR AGENT



Unlike foam, TPRL-E encapsulator agent has none of the same properties as foam and fight/extinguish fire in a completely different way. A encapsulator agent are simply educted to water, at a 3% solution, and are used in exactly the same way that we use water.

They can be used in onboard foam systems, fixed fire supression systems and portable fire extinguishers.

Remember to never add anything to your foam system without thoroughly flushing the entire foam system with water to remove all foam concentrate.

TRPL-E encapsulator agent can be educted in the same way that foam is; however, there is no foam expansion blanket produced. The best way to explain what the encapsulator agent is to say that if you can imagine fighting fire with what looks like liquid gold-colored water coming out the end of your smooth bore or adjustable fog nozzles.

TRPL-E encapsulator agent is PFOA and PFOS free, nontoxic, non-corrosive, non-abrasive and biodegradable.

Encapsulator agents have been the “redheaded stepchild” of extinguishing agents for the past number of years because they were lumped into the generic category of “water additives” such as those found in NFPA 18, Standard on Wetting Agents.

The new 2022 version of NFPA 18A specifically delineates encapsulator agents.

TRPL-E Scope:

This standard provides the use of TRPL-E encapsulator agent for the control and/or suppression of Class A, Class B, Class C, Class D, and lithium-ion battery fires and the mitigation of flammable vapors.



THE APPLICATION: TRPL-E ENCAPSULATOR AGENT



It is important to note the scope, and application of TRPL-E encapsulator agent that is now being used to not only fight Class A and B fires but, more importantly, for those of us embattled in the quest to find answers to effectively fight electric vehicle fires. Equally as important is the declaration that includes “mitigation of flammable vapors.”

Remember that electric passenger vehicle fires are not only Class A fires but Class C and Class D fires as well. Without taking into consideration the amount, often upward of 300 pounds, of raw Class D materials now found in the construction of today’s electric vehicles, the lithium-ion battery in thermal runaway is also considered a Class A, C, and Class D fire, in that it does not react well to the application of water on it. Conventional wisdom tells us that a water-based agent should be contraindicated on combustible metals and electric vehicle fires.

TRPL-E encapsulator agent fights fire in a completely different way than anything we’ve had previously.

One of the keys to this new firefighting technology is Encapsulator–Micro Technology. This technology forms and maintains stable micelles capable of encapsulating combustible and flammable liquids (nonpolar and polar), rendering the flammable liquids nonflammable, non-ignitable, and nonexplosive and maintaining that encapsulation in the presence of high heat over an extended period of time.

Unlike other extinguishment tools, TRPL-E encapsulator agent forms a cocoon, once agent comes in contact with the heat source, thereby “insulating” the object from both heat and (under approved conditions) electricity. In other words, this technology allows for super rapid cooling by way of “thermal conveyance” as opposed to plain water’s steam conversion. This rapid cooling allows for lowering the autoignition temperature of the heat source.

Additionally, because of the polarity of the encapsulator agent micro-technology structure, the agent solution “encapsulates” the hydrocarbon fuel, rendering it inert and inflammable. Simply stated, this technology extinguishes these fires by rapidly lowering autoignition temperatures and by breaking the free radical chain reaction in the fire tetrahedron. It also provides permanent burn-back resistance through encapsulation.

We have traditionally relied on traditional fire suppression methods, such as steam conversion using water for suffocation and separation using foam, powders, and other agents. TRPL-E encapsulator agent works through the process of thermal conveyance by employing the use of micro-technology. You will see that this technology is the future of modern firefighting.



IN-LINE EDUCATOR:



Preparation: Ensure that the fire suppression system is properly set up and ready for operation. This may involve connecting hoses, verifying water pressure, and activating the system.

Mixing Ratio: TRPL-E ratio is 3%.

In-line Educator: With the fire suppression system in operation, introduce the efireX TRPL-E encapsulator agent into the water stream using the in-line educator. The educator creates a vacuum that draws the encapsulator agent into the water flow, ensuring thorough mixing. The educator can be placed at any coupling in your hose lay.

Dispersion: As the water and efireX TRPL-E mixture flows through the fire suppression system, it is dispersed onto the fire or fire-affected area. The agent works to suppress the flames and form a protective encapsulator barrier, preventing re-ignition. *Note, there is no chemicals in the agent so you will not see an expansion of the agent to water.*

Monitoring: Continuously monitor the progress of the fire suppression operation, making any necessary adjustments to the flow rate or application as needed. Pump operations should be set above **100 gpm** and the nozzle should be set at equal or above **95 gpm** to ensure proper agent flow rate. Ensure that the fire is fully extinguished and that the encapsulator agent effectively encapsulates the fire source.

Post-Operation: After the fire has been successfully extinguished, follow departments proper procedures for system shutdown and cleanup. Flush pump and hoselines after each use with water. Using efireX TRPL-E with an in-line educator provides an efficient and effective method for delivering the encapsulator agent to the fire site, ensuring rapid suppression and containment of fires across various applications and environments.



FIRE EXTINGUISHER:



To ensure optimal performance, the water can fire extinguisher (non-efireX provided) should be emptied, rinsed before filling with TRPL-E agent.

Do not mix agent and only use efireX TRPL-E agent when filling fire extinguisher.

Fire Extinguisher: Add 1.5 gallons of TRPL-E encapsulator agent to your 2.5 gallon fire extinguisher and pressurize with 100psi of air.

TRPL-E, as a non-chemical-based biodegradable agent, can be effortlessly cleaned up with a quick rinse of water, dissipating the agent and minimizing environmental impact.

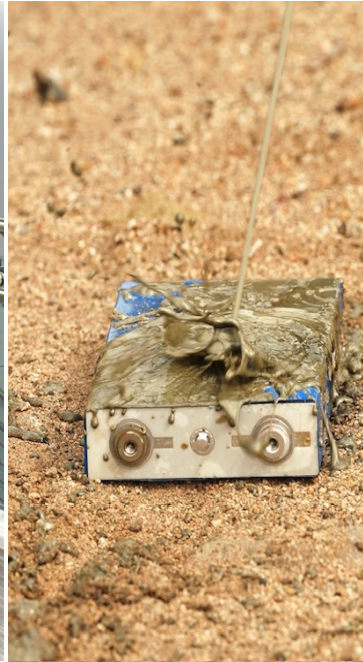
FILLING



STORED



EXTINGUISHING



ENCAPSULATING



ELIMINATED / FULLY
ENCAPSULATED (Cocoon Effect)



THANK YOU!



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