

THE FireStopper® Predator FFC™
AN AQUEOUS FOAMING PREMIX
ENABLING NEVER BEFORE CAPABLE
FAIL-SAFE FIRE PROTECTION
APPLICATIONS



Marketing Department: Technical

WHITE PAPER

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INTRODUCTION

FireStopper® International Limited (*FireStopper®*), a transnational Registered Company, is the developer of the world's most advanced and uniquely powerful firefighting and anti-explosion ***"Proprietary Technology,"*** within the meaning of the Uniform Trade Secret Act ("UTSA") Cal. Civ. Code Sec. 3426, Common law, Business and Profession §17200 and all other applicable U.S. and International statutes, which also produce environmental remediation and other supporting applications.

FireStopper® initially devoted the first 25-years of its existence to R&D and market research. Subsequently, *FireStopper®* is the recipient of the stand-alone Global testing and certifications results unsurpassed by the industry. Such achievement is afforded by way of unprecedented results in fire ratings, usage, and environmental certifications. Without exception, all certifications have been granted through the most respected testing and certification facilities domestically and internationally.

Moreover, this unique Technology has rendered the only available ***"all fire class"*** effective and ***"anti-explosive"*** products, which are ***Non-Toxic, Non-Irritant, Environmentally Safe and Non-Hazardous***. These achievements were accomplished by way of the most demanding environmental and life and materials exposure testing and certification making the *FireStopper®* "Brand" the best overall provider of Products over the other existing and available products manufacturers in the explosion/fire and safety channel of business.

FireStopper® continues to maintain its commitment to deliver far and away technological lead over the industry standard. When the need for change is compelled, *FireStopper®* responds by demonstrating its ability to deliver to the demands for change by bringing forth superior and reliable advancements whenever revision is needed and demanded to insure and support maximum safety to the first responders, the recipients of the fire service, the people, the environment, and the Planet.

DISCUSSION

The *FireStopper®* Predator FFC premix formula, an aqueous foaming catalyst exclusively available through *FireStopper®* Trademarked Products. This unique ultrafast acting and reliable extinguishment product is designed to provide fire security in all fire-classes and extinguishment of all types of flammable materials while securing unequalled environmental safety efficacy.

We have all experienced the total failure observed during the 9/11 fire and rescue mission. Twenty-one years have passed and innovation to solve response time in the delivery of safety to unpredictable events such as wildlands fires, terror inspired attacks and other industrially based explosive conditions have yielded zero results. It is inconceivable that given the massive failure by the responsible entities charged with delivering overall fire safety to the Public continue to employ plain water as the main extinguishing media. Regardless of where fire and explosions are possible.

Because sprinkler systems that exclusively only deliver a flood of water, and water is only effective on common carbonaceous materials¹, change is necessary. In today's high-tech environment, Transportation, commercial structures, and residential spaces contain a multitude of flammables that water only marginally provide any safety or extinguishment. This unreliable condition is unacceptable given the unfettered failure by the fire and safety industry in conjunction with the deliverers of emergency fire services across the nation. In the present residential, commercial, industrial, and military environment, where general utilization of drones has demonstrated to be efficient and reliable, in the fire safety space drone application have failed to materialize any usable efficacy.

*With the advent of FireStopper® the opportunity to eliminate the inevitable consequences of full blown "Wildland Fires" now can be thwarted and eliminated. With a payload as small as 15-liters of the **Predator FFC™** onboard, the intended drone-based **FireStopper® ICE System™** will deliver safe and quick extinguishment of any incipient fire originating in wildland environments. municipalities, commercial entities, and the private sector can now defend against the unpredictable outcome from incipient wildlands fire occurrences.*

How it works

*The **FireStopper® ICE System™** is designed to deploy a squadron (Swarm) of drones able to identify, confirm, and extinguish the incipient fire regardless of its origin. By acting swiftly to overwhelm and extinguish the fire perimeter, the swarm of drones (composed of 10 to 20 individual units) easily and efficiently can and will extinguish the incipient fire events faster than any ground-based response before it has propagated into a dangerous, costly in life and asset occurrence.*

THE SOLUTION:

Throughout the 20th Century to the present, state and federal organizations charged with the responsibility to protect the public and its interest, the commons, which the wildlands make-up a major component of said duty, whether state or federal, these organizations are charged with the responsibility to protect them on behalf of the owners, "We the People."

Notwithstanding, year over year these organizations have failed their duty by their inability to stop wildlands fire events. Against the best interest of the public, government has self-appointed sub-branches of authority to dictate every aspect of delivery of fire safety in favor of "special interests." In such pursuit, the use of class "A" foams, water and other so-called fire retardants have delivered devastation to both the forests and the people as a sum result of their usage.

They have damaged the environment to such an extent that poisoning of the environment and its wild creatures continues unabated. Moreover, death and destruction befalling on the people and to their hard-earned assets are now a common occurrence every fire season, which now seems to have grown to the major portion of the year. If this condition were to persist in the private sector, the responsible party would be subject to massive lawsuits from individuals but more devastating to the responsible entity from class action lawsuits.

¹ Class "A" flammables such as wood, rubber, plastics, and textiles among other materials are Carbonaceous materials
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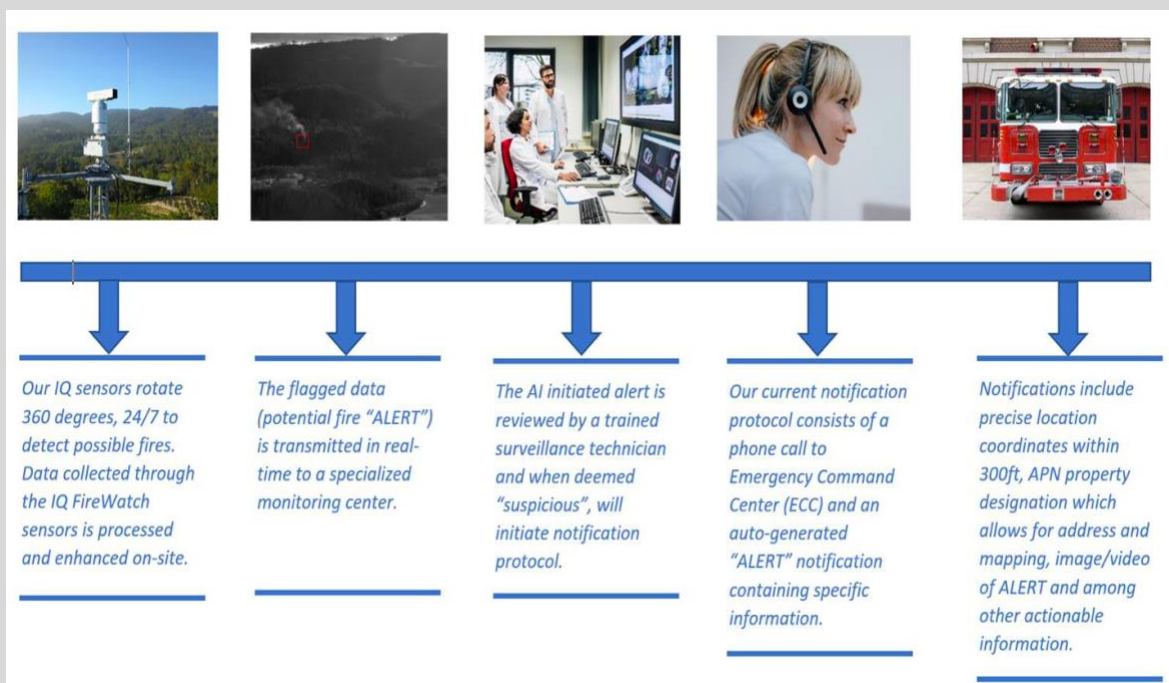
Nonetheless, in the interest of progress and providing an answer to this ongoing problem affecting the planet and life, FireStopper® is ready, willing, and able to demonstrate and provide its designated product for the task of protecting the assets and life of the “people,” in contrast:

- The current approach to wildland fire management, exclusively employing the retardant “Phos-Chek,” not only has it failed to deliver containment and extinguishment of wildlands fires it has produced serious unintended and unwanted consequences on the environment and on the health of the citizens affected by wildland fires.
- By exclusively pursuing and employing a fire-retardant policy to manage wildfires, a series of unintended consequences have manifested:
 1. Fires have destroyed tens of millions of acres throughout the years the policy has been in play
 2. Multi-Billions of dollars of taxpayer’s moneys every year have been wasted
 3. And a culture of cronyism has taken the reins that has prevented innovation to be considered and employed to effectively stop what we have come to accept as inevitable destruction by fire

Based on the dire need for true innovation, the **FireStopper® ICE FFC System™** now make available the earliest possible fire detection and extinguishment device never before possible. The ICE™ (Identification, Confirmation and Extinguishment) System is a tool that provides state of the art detection, confirmation, triangulation, and fast deployment of a swarm of drones armed with the most advance and powerful extinguishment media in the World.

Obviously, an efficient swarm of all fire class effective capable drones made available at every fire emergency shall be the swiftest option ever deployed offering the fire professional, for the first time, the ability to safely devote more assets to the rescue side of any fire effort. The System is deployed with a support mechanism that will be manned 24/7/365 as referenced in **Fig. 1** below. The illustrated focus shows the system providing confidence in the swift alert, readiness, and quick response necessary to deliver the best chance to save lives, property, and capital both in the private and public sectors; it all translates to savings never before possible.

Fig. 1



By implementing this early detection and warning system the end-user can best defend its assets, reducing or minimizing the potential damage to its property and magnifying the level of safety to human and animal life. The triangulation of information will provide the basis for the implementation of protection and extinguishment of the incipient or oncoming fire event; please see Figures 2 & 3 below:

Fig. 2



Fig. 3



The second leg of this triad of fire safety, a never before plausible or contemplated product, “The Firefighting Drone.” This is a product of a cutting-edge, high-tech innovating unmanned vehicle producing American company capable of delivering failsafe performance needed for this innovation to be successfully deployed.

GreenSight Technologies

GreenSight is a 7-year-old developer and manufacturer of automated drone products, and is focused on solving practical, real-world business and societal problems using robotics technology. The company was founded on the concept of ubiquitous drone imaging for agriculture and developed a full stack product that combines drone hardware, custom sensors, artificial intelligence data processing and remote management which has been deployed with over 250 agricultural facilities and conducted over 12,000 remotely operated flights. The company used this initial product as a jumping off point into a variety of drone and robotics related product areas, expanding its technology to encompass large scale drones capable of lifting heavy payloads as well as high speed swarms of nano-sized drones.

GreenSight has executed complex system and product development projects using its core technology for close to 100 government agencies and private companies since founding.



The initial introduction for this extraordinary and complete weapon against the ravishes of wildfires will be performed for Industry, Government, and the Media in the short term.

For the demonstration, GS will leverage the Marauder drone system. This platform was originally developed under a DARPA funded effort and has now been used for a variety of projects including lofting 5G radios and other heavy payload applications. It can lift to 10kg worth of payload while maintaining a long flight time and high reliability.

In later Phases, a larger UAS will likely be utilized to carry more payload, based on GS’s heavier lift aircraft. The Marauder is a better choice for the initial Phases as it is smaller and will be easier to get permission to fly in an open airspace.

The Facilitator

The **FireStopper® Predator FFC**, a liquid premix formula proven to extinguish all flammable materials on the Planet. A liquid product formulated to be totally “Green,” Non-Irritant, and Non-Aggressive. Its effectiveness extends to include nuclear related flammables and can operate in all the Planet’s temperature environments.

Moreover, not till the advent of FireStopper® was it possible to employ a firefighting drone platform that could deliver a practical and fail-safe weapon against fire; all other firefighting chemicals are unsuited for the drone environment and the required task. With FireStopper®, each drone carrying 15-liters of this super-agent that based on its performances we can expect unprecedented class “A” performance.

Once detection and confirmation are established, the FireStopper® ICE System™ becomes fully deployed by directing the state-of-the-art unmanned drone swarm lock and loaded for action with the FireStopper® Premix ready to do its job at the designated point of the origin of the detected fire.

Since forest growth produce hydrocarbons such as turpentine and other plant-based oils, we can expect superior class “B” extinguishment. In the event of unforeseen manmade flammables, such as Lithium-ion batteries being involved as collateral fuels, the FireStopper® product will quickly and efficiently extinguish them eliminating the fire potential left unaffected by the products currently in use on wildlands fires.

Chart 1

FireStopper® PREDATOR FFC* (A Premix Formula)

PRODUCT	SPECIFICATION	USAGE
FireStopper® “PREDATOR” FFC* <ul style="list-style-type: none"> No Halogens, absolutely <u>NO FLUORINE</u> 	<ul style="list-style-type: none"> Liquid premix Temp resistant: <-99°F to >140°F Low viscosity to water thin 	<ul style="list-style-type: none"> All fire class effective² ABCDK & sub-classes including Nuclear related flammables All environments use and applications

* The “Predator” FFC is NOT commercially available; it is exclusive to FireStopper® Trademark handheld, large volume portables and fixed systems

Chart 2

Advantages of  FireStopper® over Phos-Chek® by comparison

FireStopper® (All liquid products are Fluorine Free, Certified “GREEN”)	Phos- Chek®*: MVP-FX, F & 259-F (Dry Powder)	LC95A, FX, & F	LC95W
NON-TOXIC, “GREEN”	Toxic	Toxic	Toxic
NON-CORROSIVE	Corrosive	Corrosive	Corrosive
CLEAN AGENT	Not A Clean Agent	Not A Clean Agent	Not A Clean Agent
NON-IRRITANT (SKIN & EYE)	Irritant	Irritant	Irritant
ENVIRONMENTALLY SAFE (Flora, Fauna, Rivers & Oceans)	Pervasive in the environment; kills fish flora & fauna	Pervasive in the environment; kills fish flora & fauna	Pervasive in the environment; kills fish flora & fauna
◇ NO SPECIAL EQUIPMENT FOR MIXING OR APPLICATION	Require onsite mixing with special equipment	Require onsite mixing with special equipment	Require onsite mixing with special equipment
ALL FIRE CLASS EFFECTIVE: ABCDK	Fire Class: A only**	Fire Class: A only	Fire Class: A only
TECHNOLOGY: (FFC) FIRE FIGHTING CATALYST	Ammonium Phosphates	Ammonium Phosphate +	Ammonium Phosphate +
EXTREME LOW EVAPORATION water thin; deep penetrator	Slurry (viscus)	Slurry	Slurry
MASSIVE TEMPERATURE REDUCTION	No temperature effect	No temperature effect	No temperature effect
EXTREME RETARDANT PROPERTIES NO RE-IGNITION POST EXTINGUISHMENT	Thick coating	Thick coating	Thick coating
APPLICATION: AIR & GROUND BASED	Air	Air	Ground
DEEP PENETRATION TO THE ROOTS	NONE	NONE	NONE

** Phos-Chek employ “polyphosphates” mono ammonium phosphate/ Diammonium phosphate, etc., in the variation of their formulas as the lead retardant ingredient. In the massive use of these retardant, as in wildland fires, have an environmental devastating effect short and long term. Wildland fire fuel is composed of class A and class B fuel. The oils and turpentine are classified as B-type fires and based on the viscosity and auto ignition temperature of the oils it may fall in the K class thus, ineffective on other inherent fuels making-up the wildlands fire fuel potential*

◇To deliver the final form, which is a slurry, the Phos-Chek dry chem retardant require expensive, on sight, hardware equipment and specially trained personnel

The **FireStopper® Predator FFC**, is a liquid premix formula proven to extinguish all flammable materials on the Planet, totally “Green,” non-irritant, and non-aggressive; its effectiveness extends to include nuclear related flammables. Moreover, not till the advent of FireStopper® was it possible to employ a firefighting drone platform that could deliver a practical and fail-safe weapon against fire. With the deployment of a swarm of drones, each drone carrying 15-liters of this super-agent that based on its performance we can expect unprecedented class “A” performance, superior class “B” and in the event of unforeseen manmade flammables such as Lithium-ion batteries being involved as collateral fuels, the FireStopper® product will quickly and efficiently extinguish them eliminating the fire potential left unaffected by the products currently in use on wildlands fires.

To further illustrate the massive failure against wildfires, please review the photo sequences below:

Fig.4



CONCLUSION

As with every new leap in technology, resistance from special interests, the establishment, and Politics based on personal financial gains always pose the condition of obstacles. Nonetheless, this time with these Technologies coming together to provide a solution to an existential threat to the Planet and its inhabitants, both the People and the Government are demanding change; the eyes of the masses are upon them to do the right thing. Moreover, the big beneficiaries shall be the Insurance Industry, which will greatly benefit from the loss of contingent liabilities as related to structural and personal losses claims; we stand-ready to deliver on the opportunity to provide never-before capable solution to the ever-present threat of devastating wildfires whenever or wherever said event originates.

Moreover, this breakthrough in technology at every point in this triad of advancement, shall provide abatement of deadly fire additionally resulting in massive material and financial loss wherever stagnant and antiquated delivery of fire protection is being deployed such as in high-rise fire occurrences, isolated private sector or industrial operations, and most prevalent in military fire protection needs all of which are becoming evident with devastating, costly and embarrassing events such as the July 12, 2021 Bonhomme Richard Navy Aircraft Carrier Fire.

Thus, FireStopper® and its partners, GREENSIGHT & Illumination Technologies California are committed and poised to bring forth a level of safety only imagined.