



StormFront™

A NOVEL FAILSAFE FIRE PROTECTION SYSTEM AGAINST WILDLAND FIRE

Marketing Department: Technical

WHITE PAPER

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"HELPING TO MAKE AMERICA GREAT AGAIN! SM"

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."** FireStopper® shall protect its 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.

FireStopper® initially devoted over 30-years to R&D and market research. Exclusively employing "Quantum Chemistry," this discipline has produced a fire extinguishing product line unmatched throughout the world, which has received stand-alone Global testing and certification results unparalleled by any other competitor in the industry.

Moreover, this unique Technology has produced the only available **"all fire class"** effective media 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, human, animal, and materials exposure testing and thus the certifications. Making the FireStopper® "Brand" the best overall provider of life, environment, and property saving producer of Products over the other existing and available products manufacturers in the explosion/fire and safety channel of business everywhere.

Fire services around the World tend to follow and copy the implemented techniques, products, and usage employed by the American fire service's approach to wildland fires. The traditional path for the Global approach starts with the National Fire Protection Association (NFPA), an Industry based, NGO (Non-Government Organization) composed of the fire industry providers of products and services whether they are commercially, or Government based.

Also, organizations such as The International Association of Wildland Fire (IAWF) also "a professional membership association dedicated to uniting the global wildland fire community." It is precisely this unification that is the construct of a dangerous "monopoly," whether intentionally or unintentionally, which by practice acts as an impediment to progress.

Notwithstanding the above, there exists a culture based around these organizations that no matter where it originates, the result is that the industry, which supports the organizations through its memberships and other promotions earmarked to maintain its financial stability, becomes exclusive to the needs of its members, the special interests, rather than the greater need or the People and the environment.

USDA's Missoula Fire Sciences Laboratory is the determinant of what products and equipment is used on wildland fires. Unfortunately, new technology products that may provide superior results both in efficacy, safety, and economy, a serious threat to the status quo, and history is clear that this practice has impeded any progress to ameliorate the devastating results of wildland fires.

Based on the controls dictated by US Forestry, a division of the USDA, new technology has been excluded through built-in regulations acting as a stopple on behalf of the special interests, preventing proven innovation from participating and aiding in the disaster. Regardless of the competence of a product, the edict is that unless the intended product submits totally to the dictates and control of this Governmental cabal, it is prevented from being used regardless of its possible superiority over the accepted protocols.

DISCUSSION:

*For over 100-years the approach to combat and stop wildland fires has demonstrated year-over-year massive failure at defeating said fire events. It should not be surprising to anyone that because of the massive failure to deliver a reliable extinguishment process by the National and States Fire Services should fall under the heading of insanity: “**The act of doing the same thing over and over hoping for a different outcome.**” Taking into consideration the results of devastation produced by the fire services over the past 100-years, FireStopper® has developed a novel, and failsafe approach to secure the People, the environment and commerce from the assured destruction by fire we all have seen to date.*

PRESENTATION:

The FireStopper® Fire Fighting Catalyst Technology, also known as (FFC), has been demonstrated and validated under real-world conditions during the Virginia Lakes Complex fire in Washington State (the largest fire in the USA that season). This technology effectively extinguishes wildland fires, thereby providing a permanent solution to such incidents.

FireStopper® is currently in the second generation of its technological product line. With a lead of at least 50 years over the industry, FireStopper® presents a new failsafe strategy to mitigate the destruction caused by wildland fires. We have devised three methods that support the following failsafe applications for delivering FireStopper®. Each method outlined in this White Paper is crafted to ensure comprehensive protection against the spread of wildland fires and to avert the complete devastation of land and property by fire. Additionally, the environmental contamination that occurs post-fire, which can lead to irreversible economic damage, can be alleviated through the application of this technology. Most crucially, it will safeguard lives that are often at risk under such circumstances. Consequently, we present the following:

1. The Static System

A system designed for optimal fit, consisting of detectors, Monitor Guns, and Drones. This coordinated setup can be strategically deployed to ensure complete coverage of the selected areas that require protection. The advanced detectors can be strategically arranged to enhance their detection range (capable of accurately covering miles from the targeted property/area to be safeguarded), offering unprecedented security against the risk of wildfires. Each Monitor Gun is programmed for its designated coverage by utilizing a spraying pattern of 180°, covering a distance of 100 to 150 feet, applying a protective layer of FireStopper® to the entire area surrounding the property as needed.

*In support, a swarm of domes can be released to attack the incipient fire with **FireStopper® Disruptor 3610 FFC** concentrate @ 6%, fully covering the targeted perimeter. The result being that no embers will survive exposure to the Disruptor. Said mixture at 3 or 6% mixed with water shall provide the necessary, dependable, and effective protection against ignition based on the end-users’ chosen setup.*

Secondly, within the framework of the proposed system, each structure on the property is equipped with a sprinkler system that encompasses the entire outline of the roof, including the eaves. This supplementary measure guarantees reliable protection regardless of the severity of

the impending fire incident. The FireStopper® FFC/EnviroSafe® Technologies produced Products, which are all designed to be deployed in all firefighting/anti-explosion environments and tasks, shall provide the exclusive ability to extinguish every type of flammable material on the Planet thus ameliorating potential explosive events so prevalent in the current Global fire environments; all availed while being “**GREEN**.”

This novel, SAFE and most powerful advancement in Technology offers a multitude of products designed to fit a variety of fire-safety purposes, uses and applications (for this comparative narrative, we shall limit the flow of information to the FireStopper® product: **DISRUPTOR 3610™ FFC**.)

FireStopper® firmly asserts that this product is the most suitable option within its range. It aims to address decades of significant harm to the environment, the Public Trust, and the Private sector, as demonstrated by the ongoing defensive measures implemented against wildfires by the USDA’s US Forestry and CDF’s CalFire, along with other designated responsive operations across various States.

Chart 1

Advantages of FireStopper® over Phos-Chek® by comparison

FireStopper® (All liquid products are Fluorine Free (EPA1633 APPROVED “GREEN”)	Phos-Chek®* ◇ MVP-FX, F & 259-F (Dry Powder) NO EPA 1633	LC95A, FX, & F NO EPA 1633 APPROVAL	LC95W NO EPA 1633 APPROVAL
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) EPA 1633 Approved	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: An only**	Fire Class: An only	Fire Class: An 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

* 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.

FireStopper® is capable of demonstrating, through its third-party certifications and upon request, that its technology will provide extinguishment to the surfaces or materials applied, thereby safeguarding structures in the line of fire, surpassing all other products currently in use. Consequently, this eliminates the necessity to utilize so-called long-term retardants, along with other expensive and ineffective products and associated efforts.

*When directly applied to the wildland fire events, the **Disruptor™ 3610 FFC** will defeat, by extinguishment, the advancement of wildfires regardless of the source or terrain when directly applied by land or air.*

*Moreover, for the first time in wildfire firefighting history, a product such as the **FireStopper® Disruptor™ 1036 FFC** will deliver reliable instant massive temperature reduction never-before availed by any other product or technology. Without question, clearly enabling firefighters on the ground to access the treated areas and construct containment lines, as needed. For the first time FireStopper® makes available an environment of safety second to none.*

*In contrast with the **Disruptor™**, the currently deployed/used products in wild land fires, fails at the following:*

- These products do not produce any viable temperature reduction, thereby increasing the difficulty on ground crews to efficiently access the terrain or areas to treat. Secondly, these products now in use have shown no effect in preventing the heat related so-called wildfire related “fire weather events.” Thus, increasing the chance of re-ignition due to secondary source flammable materials availability.*
- Since the inception of Phos-Chek and class A foams usage, the sum effect of such application of products on wild land fires is at best marginal effectiveness. The fact remains that most wildland fires end up with devastation. They have shown little or no extinguishment of the fire events, which clearly defines the incompetence of said products. Moreover, the aftermath of their use leaves the environment’s flora, fauna, fish and waterways severely damaged.*
- The response time, being a major component and limitation of the current products in use, is an additional contributor to low efficiency in wildland fire mitigation. One of the currently tasked products, Phos-Chek requires on the ground and in-theater personnel and equipment for premixing the slurry, adding costly delays to the response time sorely needed under the emergent conditions. Additionally, such a requirement for use also adds significant investment in equipment, personnel, and logistics necessary for their use.*
- The airdrop application over dense forest growth, reportedly, produce product clumping on the top of the trees or elevated surfaces. This will not provide viable extinguishment result on the ground-based fire that feed the growth of the flames causing crowning of the fires, which is the engine feeding the spread of said fire-event¹.*

¹ Based on the year over year total devastation result occurring in every seasonal fire event, the currently employed method is clearly a massive failure.
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In contrast, when **Disruptor™** is applied either by airdrop or through ground-based applications, the product will deliver full extinguishment leaving the treated surface incapable of reignition. In addition, the product is designed to reach the belowground fires, a source of re-ignitions so common to these events. In the aftermath of its use, no such damage will occur. Therefore, once FireStopper® is adopted for use, wildfire fighting becomes more efficient, safe, and economic.

The sum effect of deployment of this new Technology and subsequent Products will manifest superior economic advantages, savings in time and equipment, and better man-hour management so needed to provide quick, efficient, safe, and reliable extinguishment of wildfires.

- The current approach to wildland fire management has produced serious unintended and unwanted consequences on the environment and on the health of the citizens affected by wildland fires; the Pacific Palisades, CA, adjacent, and collateral fires are examples of said failure and the urgent need for change.

2. Introducing:

 FIRESTOPPER IDENTIFY CONFIRM & EXTINGUISHMENT (ICE) SYSTEM™

The **FireStopper® ICE System™** is the only capable and usable rapid deployment, drone-based extinguishing system in the World that can utilize a dependable and effective light payload firefighting drone to defeat and stop the devastating effects of wildland fires at its inception.

Moreover, due to the accuracy and reliability of the supporting detection hardware, identification and confirmation systems, the correspondent state-of-the-art, low wight and volume drone payload delivery vehicle system, deploys the **FireStopper® Predator FFC™**, which will extinguish the incipient fire event at the earliest possible intervention.

Chart 2

FireStopper® PREDATOR FFC* (A Premix Formula)

PRODUCT	SPECIFICATION	USAGE
FireStopper® “PREDATOR” FFC™ * • No Halogens, absolutely <u>NO FLUORINE</u>, EPA 1633 Certified	• Liquid premix • Temp resistant: <-99°F to >140°F • Low viscosity to water thin	• All fire class effective² ABCDK & sub-classes including Nuclear related flammables. All environments use and applications

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

The **Predator FFC™**, as with all other FireStopper® liquids do not pose any health, environmental, or materials hazards. Coupled with the unprecedented over-all global performance, it offers the unique opportunity to provide incomparable safety and reliability not available before with any other products, systems, or techniques.

Wildland fire events throughout history and to the present have either extinguished themselves by running out of fuel or have been ended by Nature by producing rain; man’s interjection generally has proven to be feeble at best in the attempt to halt and extinguish the wildfire occurrences.

² The Predator™ is effective on all flammables including Nuclear Industry related exotic flammables.
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To this end, it is indisputable that since the adoption by USDA/US Forestry of the current exclusive mass application of Fos-chek®, generally the experience and result of its use has demonstrated a massive failure to stop the progress of the fire, among other undesirable results.

Nonetheless, the chemical structure or components of these products, employed at great expense to the Public, do not employ any new or never-before experienced chemical structure. As a matter of fact, the main components of this slurry mixture or collaterally available products are ammonium phosphate-based compounds, which have been used in dry chem portable extinguishers for over 150-years and have proven to be inefficient in real world fire conditions and applications.

Coupled with the additional costs to the fire services for on-sight mixing equipment, which includes extensive and expensive necessary training to produce the slurry; the end-use mixture airdropped, as a result, produce heavy expenditures that do not delivered any viable positive results. A business environment denying innovation; the exclusive operational footprint afforded by US Forestry, California Department of Forestry, CDF, AKA: Calfire, and or any of the other supporting municipal fire services affording aid in the fight against wildfires.

Thus, the result of this type of corrosive practice has produced massive economic loss overall, destruction of the forests and natural resources, devastation to families and most damaging the loss of life!

To continue this hopeless path is to subscribe and submit, by definition, to insanity. We as the citizens of this Nation must and should question the wholesale disregard for progress and innovation by the Agencies and Personnel charged with the protection of “Commons,” the People and the Natural Resources of this Nation.

Detection Confirmation & Extinguishment

*The **FireStopper® ICE™** System employ a fail-safe, 2-step, multi verifying system that employ state-of-the-art cameras that can detect and identify incipient fires from 8 to 20-kilometers depending on the required placement for the desired result. A set of 3-cameras are deployed to triangulate the location of the incipient fire event thereby maximizing efficiency.*

*At the speed of light, confirmation is attained, and deployment of the state-of-the-art drone is activated rapidly delivering the **FireStopper® PREDATOR FFC™** to the source and location of the incipient fire. A structure for full extinguishment and termination of the destructive event within 10-minutes from confirmation.*

*The individual **ICE™** System will carry 4-gallons of the premix, which by design can deliver < 20-A fire performance, <40 to 60-B, C, D, and K full and reliable extinguishment. The **FireStopper® ICE™**, as its predecessor **FireStopper® PFEFR FFC™**, will enter the marketplace with full third-party, World recognized certification as a portable and fix system use as an all-fire class premix extinguishing media. Moreover, this 2nd Gen application system is intended to deploy in a swarm configuration consisting of 10 to 20-drone vehicles all operating as a unit, thus, being able to thwart any incipient wildland fire.*

3. The FireStopper® StormFront System™

The third prong of the triad of protection is exclusively designed for us and implementation by Government. The **StormFront System™** is designed for use where a wildland fire event, for whatever reason, has grown out of control and quick and swift action by Government is required to extinguish and stop the advancement of fire.

As in seaborne warfare, battleships are armed with depth charges, which are effectively “barrel bombs” designed to explode at differently designated depths. So has FireStopper® designed a 1000-liter tote designed to explode using a barometric activated explosive charge at the most advantageous and efficacious deployment height above ground.

Thus, creating a FireStopper® rainstorm over the advancing fire line, **The StormFront System™** is best deployed in C-130s or in greater load-carrying Military transports that can deliver and drop 16 to 32 totes from each aircraft thereby being able to deliver the proper carpet style bombardment. The **FireStopper® Disruptor™ 3610 FFC**, at a 6% solution, will quickly and efficiently extinguish the fire, stop its progress, penetrate surfaces to stop the underground fires, an additional reignition source, while cooling the environment for assessment and land clearing.

Fig. 1



Fig. 2



Fig.3



Fig. 4



CONCLUSION

The primary aim and outcome of this tri-system is to eradicate the catastrophic consequences of wildland fires that arise from the failure to permanently extinguish active fire threats. Additionally, it seeks to prevent such events effectively whenever feasible, while offering communities a personal or collaborative fire protection system designed to eliminate the risk of fire and the significant material losses; more crucially, it aims to lessen the emotional toll on individuals resulting from these disastrous situations.

Furthermore, the primary beneficiaries will be the Insurance Industry and the Government, both of which will significantly gain from the substantial decrease in losses. Consequently, this will lead to a considerable reduction in contingent liabilities for both parties. Undoubtedly, the taxpayer stands to gain the most significant potential savings, as we, the People, are ultimately relied upon by the Government through taxation and by the industry for the recovery of all losses.

The public should not become victims of the practices employed by special interests concerning the preservation of life and property. Furthermore, these special interests, which include fire-related unions and the organized "Big Business", consistently resurface whenever there are improvements in efficiency and technological advancements. Solutions to significant issues pose a threat to these interests, thereby fostering and promoting a business-as-usual mentality, irrespective of the societal costs.

With the acceptance of FireStopper® by both Government and Industry, this highly advanced technology will provide the public, for the first time, with a dependable assurance of safety and economic outcomes directly resulting from its implementation and usage.