

MORE AGENCIES MAKE THE SWITCH

Photo credit: Bill Barr



Photo Credit: Gel Systems Canada



Firelce®
WILDLAND FIRE

www.Firelce.com
Boulder, CO | Jupiter, FL

BREAKTHROUGH TECHNOLOGY



Firelce®
WILDLAND FIRE

Firelce® is a next generation gel suppressant and medium-term retardant. Using proprietary cross-linked copolymer technology, Firelce® is environmentally friendly and the most versatile fire chemical on the market.



Why Choose Firelce®?

Trust Firelce® is the leading product choice by merit, not legacy. Personalized training & support, improved visibility, safety and mobility provide agencies more value than any other fire chemical.

Visibility & Performance Available high-visibility colorants, with the best combination of adhesion and canopy penetration of any aerially delivered fire chemical.

Eco-Friendly Non-toxic, non-corrosive, phosphate & ammonia free.

Safety The safest product for mixers, pilots, ground crew, firefighters, and the environment.

Easy Cleanup Rinses clean with just water.

Support & Training A customized program that is tailored for your agency, with emergency assistance available.

Storage, Handling, & Flexibility Zero-maintenance 15 year shelf life, in easy-to-transport packaging. Dry powder is easier, cheaper, and more durable to ship.

Mixing Technology Significant R&D investment in the most advanced mixing and loading technology available today.

Logistics Strategically located warehouses around the country for fast, efficient shipping.

Cost Firelce® provides the best performance value per dollar.



TRUSTED SUPPORT

“GelTech Solution’s support was excellent in the assistance of setting up various bases, providing product support and equipment.”

- Oregon Department of Forestry
Season Report

On-Site Support
Before, During and After Fire Season

Resource Sharing
Federal, State, Local Partners,
Intra or Inter Compact

Independent Agency Evaluations
Available Upon Request

Customers Include:

Colorado DFPC
Florida FS
Maine DACF
Minnesota DNR
New Brunswick FFM
New York DEC
North Carolina FS

Oregon DF
Ohio DNR
Oklahoma FS
Pennsylvania DCNR
Saskatchewan EWMB
South Carolina FS

Texas FS
U.S. Dept. of Interior
Bureau of Indian Affairs
Washington DNR
West Virginia FS
Wisconsin DNR

Firelce® Customized For Your Agency

Firelce® is effective for direct and indirect attack, and is utilized around the world on wildland, structure, and industrial fires. The Firelce® program is completely customizable for agency needs, including fixed and portable retardant bases, contract and procurement structuring, training, and full service staffing.



ECO-FRIENDLY

SAFER THAN LTR

Firelce® is non-toxic, phosphate & ammonia free, and will not promote noxious weed growth. Firelce® is safe to use in ecologically sensitive areas, including wilderness areas, vulnerable water sources, and the wildland urban interface (WUI).



Photo Credit: Bill Barr

W.U.I. Wildland Urban Interface areas and vulnerable water sources.



SENSITIVE HABITAT Safe to use in sensitive aquatic and terrestrial ecosystems, including Sage Grouse and Red-cockaded Woodpecker sites



Photo Credit: Steve Kohls

SAFE TO SCOOP Safe to scoop water without worry of washout

PILOT & AIRCRAFT SAFETY

Reduce Load Weight

Airtanker	Capacity	LTR: Concentrate Weight	Firelce HVO-F: Concentrate Weight
AT-802 (SEAT)	800 G	800 lbs	81 lbs
BAE-146 (LAT)	3,000 G	3,000 lbs	304 lbs
DC – 10 (VLAT)	12,000 G	12,000 lbs	1,215 lbs

"With the added safety factor of being lightweight, Firelce® improves the performance of any aircraft flown on wildfires."

-Dutch Snyder
27-year veteran
SEAT pilot



SUPERIOR

PERFORMANCE

Firelce® is the *only* aerially delivered fire chemical that can effectively adhere to the canopy and penetrate the understory.



DROP CHARACTERISTICS

Superior adhesion & penetration with reduced shadowing

DURABILITY

Proprietary cross-linked copolymer technology provides more durability and flame-resistance than linear polymers, elastomers, and LTR

ENHANCED RHEOLOGY

Reduces drifting & misting, enabling effective lower coverage levels and longer lines

BUILD LINE

And makes fuels unreceptive

HIGH VISIBILITY COLOR

Superior fugitive colorant timed to effectiveness

DIVERSE FUEL TYPES

Effective on a wide range of vegetation

EXPOSURE PROTECTION

For use on homes, structures, & utility or fence lines

PREMIUM VALUE



There is no silver bullet in firefighting, but no other fire chemical is as versatile and cost effective as Firelce®.

Independent agency reports show that the operating cost of a Firelce tanker base is a fraction of operating a traditional LTR tanker base, with savings up to 75% per gallon.

"We witnessed the effectiveness of Firelce® and the results were exceptional; it is a superior retardant."

- Elizabeth Dick
BIA Airtanker
Manager

ANY BASE

ANY AIRTANKER



USE EXISTING AGENCY OWNED EQUIPMENT AND PERSONNEL WITH A FULL RANGE OF PORTABLE AND FIXED TANKER BASE OPTIONS

Portable

Mobility Lightweight, compact, and easy to relocate, Firelce® powder concentrate gets airtankers as close as possible to the fire.

Simple Retrofit Inexpensively retrofit Firelce® eductors to any portable base tanker setup.

Equipment When needed, Firelce® offers company owned & operated portable tanker base equipment for SEATs, LATs, VLATs, and helicopters. Firelce® equipment can be ordered as a call-when-needed, or exclusive-use resources.



Fixed

Full Service Firelce® offers capability for full-service fixed tanker bases, including all required equipment.

Loading Capacity We provide right-sized equipment for all tanker bases.

Retrofitting Firelce® can retrofit most existing tanker base infrastructure.

Training We provide initial and refresher training to agencies and vendors when needed, free of charge.



NEXT-GEN

STATE-OF
THE-ART

AUTOMATED EQUIPMENT

Firelce Mobile Automated Base (F-MAB)

Fully Automated Mixing by computer control.

On-Demand Mixing product readily available at the push of a button.

Viscosity Control depending on fuel type and requests from Air Attack.

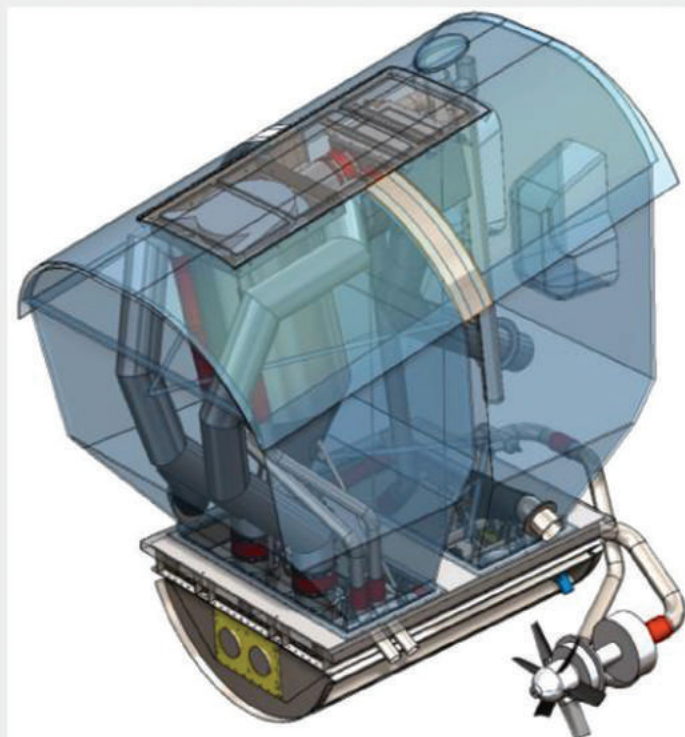
Loading Reports automatically generated daily by airtanker.

Automatically Fills airtanker to capacity based on T-Number.

Multiple Power Sources 3-phase power or available generator.

Flexible Loading using buckets or bulk bin totes.

Includes all equipment and setup with right-sized for agency needs.



Firelce AT-802 Mixing System

Automated In-Flight Mixing Revolutionary new technology designed from the ground up, to automatically mix Firelce® in FireBoss and AT-802 aircraft in flight.

Installation Designed for a minimally intrusive installation, and will not affect the performance or safety of aircraft.

Loading Simple loading procedure requires only a shop-vac.

Mixing Enables user to set mix ratios and use colored or uncolored Firelce® products.

Designed by Trotter Controls The industry leader in airtanker technology.

GROUND OPERATIONS



SUPPRESSION & EXPOSURE PROTECTION

VALUES AT RISK

Use Firelce® to keep fire under control and within fire lines to protect a broad range of values at risk

- Commercial and private timber & forest products
- Homes, fence lines, outbuildings, and other structures
- Utility poles
- Sensitive plant species and animal habitats
- Biomass & substrate stockpiles

EASY APPLICATION

Can be applied via batch mixing or direct at the end of the nozzle with the Firelce® Eductor Nozzle Gun

NON-CORROSIVE

Safe for use with all pumps

FAST CLEANUP

Washes off with water, even colored products

SAVE TIME

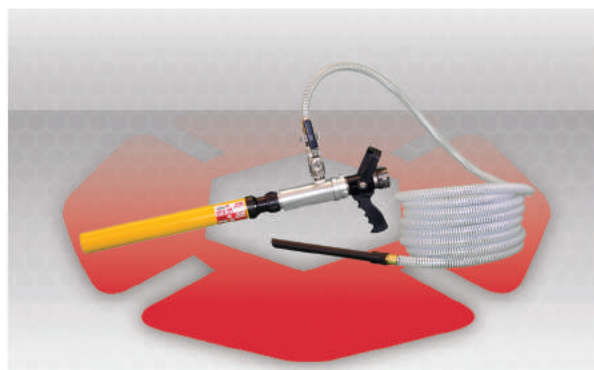
Drastically reduce time for mop-up & wet-lining

SMALL APPLICATIONS

Backpack pumps & Firelce® UL Class A Extinguisher

Use the force multiplying power of Firelce® in the smallest applications

Simple 3-ounce refill bottles are easy to carry on the fire line





ORDERING & SHIPPING

CHOOSE THE RIGHT TOOL	FI-25B-561	FI-40B-HVOF	FI-31B-FO	FI-31B-FB
	FIREICE 561	FIREICE HVO-F	FIREICE SUNSET ORANGE	FIREICE COOL BLUE
	COLOR	Clear	High-Visibility Fugitive Orange	Fugitive Orange
	APPLICATION	Airtankers & Engines	Airtankers & Engines	Airtankers & Engines
	APPROVALS	USFS QPL	Experimental One-Part Color Package	USFS QPL
	MIX RATIO & PACKAGING	25 lb. bucket per 350-600 gal. of water	40.5 lb. bucket per 350-600 gal. of water	25 lb. bucket per 350-600 gal. of water

WAREHOUSE LOCATIONS:

Atlanta, GA
Boulder, CO
Dallas, TX
Jupiter, FL

Philadelphia, PA
Phoenix, AZ
Prince Albert, SK
Vancouver, WA
St. Louis, MO

Made In America GelTech Solutions is an American company, and all FireIce® Wildland products and equipment are manufactured in the U.S.A.

Non-Hazmat FireIce® Wildland products are packaged & shipped as a non-hazmat dry powder in pallets of 36 or 48 buckets.

Lightweight FireIce® buckets are easy to hand load and transport in pickup trucks.

No Special Equipment No forklifts or other specialized equipment needed.

Storage Zero-maintenance, 15-year shelf life. Can be stored in a freezing environment.

FAQ

PRODUCT USE



- 1 Is Firelce® a retardant or suppressant?**
Firelce® is both a suppressant and short-term retardant. Aerially delivered product in airtankers can be used for direct attack, point protection and indirect or parallel line building. Ground applied product in engines can be used for suppression, mop-up, structure protection, and wet-lining.
- 2 How long will Firelce® last once applied?**
The duration of Firelce® effectiveness is dependent on weather conditions and viscosity. More viscous Firelce® will last longer than less viscous, and is recommended for structure protection. Humidity, temperature, and wind will all affect drying times. In general, Firelce® will last from anywhere from 1 hour in the most extreme conditions to 48 hours in cooler, more humid environments.
- 3 Are Firelce® products environmentally safe?**
GelTech Solutions develops and offers only environmentally safe, non-toxic and non-corrosive products. Firelce® products are phosphate and ammonia free, and contain no harmful or corrosive chemicals.
- 4 Is Firelce® safe for aquatic ecosystems?**
Firelce® has been tested by the USFS and is deemed to be non-toxic in aquatic and terrestrial ecosystems. Accidental and intentional water intrusions have had no negative impacts on aquatic ecosystems.
- 5 What is weight per-mixed-gallon of Firelce®?**
Firelce® weighs negligibly more than water; water is 8.35 lbs. per gallon, and mixed Firelce® is approximately 8.45 lbs. per gallon.
- 6 Is Firelce® safer than Long Term Retardant?**
Research has shown that Firelce® is environmentally safer than long-term retardant, especially in aquatic ecosystems. Firelce® concentrate is also 90% lighter than long-term retardant. In a DC-10 Very Large Airtanker, that is over 10,000 lbs in weight reductions.
- 7 What are the differences between Firelce® and an elastomer liquid concentrate?**
There are two main advantages of Firelce® compared to elastomer liquid concentrates: performance and line holding ability. From a performance perspective, Firelce® allows for free water to penetrate the canopy to the understory; a linear elastomer is a sticky, glue-like substance with no free water to penetrate. The other main advantage is that Firelce® is a short-term retardant with an available colorant and can be used to go direct or to build line. This allows pilots and air attack the flexibility to determine tactics once in the air. Elastomers are a linear polymer with limited durability and flame resistance when not applied directly to fire.
- 8 What is the difference between Firelce® and other water enhancers / gels?**
Firelce® is a highly refined, cross-lined polyacrylate copolymer. GelTech developed a specialized manufacturing process to improve hydration time, consistency, penetration, and adhesion compared to all other gels on the market. The copolymer is also significantly more durable than linear polymer gels.
- 9 What colorants are available?**
Firelce® is available uncolored, and in one-part and two-part orange and blue fugitive colorants. The colorants were developed to be timed to the effectiveness of the product.



- 10** **What happens if residual long-term retardant becomes mixed with Firelce®?**
The amount of fire chemical left in airtankers after a drop varies by aircraft, but it is generally a negligible amount. Research has shown there is no noticeable impact to the quality of Firelce® when loaded into an airtanker that used long-term retardant.

STORAGE

- 1** **How long can Firelce® dry powder concentrates be stored for?**
Firelce® buckets have a maintenance-free shelf life of 15 years, when stored in a cool, dry area. Liquid gel concentrates often require strict maintenance or shaking procedures at least every 6 months, and may be subject to freezing.
- 2** **How long can batch mixed Firelce® products be stored for?**
Once Firelce® is batch mixed, the product can be effective as long as it is maintained at proper viscosity levels. Product should be tested for quality control as evaporation and UV light exposure may affect viscosity.

MIXING & APPLICATION

- 1** **Will Firelce® corrode or damage equipment?**
No; Firelce® in both powder and mixed gel form is non-corrosive, and has been tested by Pierce, a premier apparatus manufacturer, and found to be safe for pumps, fittings and other equipment. It has also been tested on plastics, rubbers and many other metals (including UL testing of the Firelce® Fire Extinguisher) and found to be non-corrosive.
- 2** **Can Firelce® be batch mixed in a baffled tank?**
Yes; Firelce® can be mixed in a baffled tank. It is recommended that the discharge and suction ports be plumbed into different baffles for maximum circulation.
- 3** **Can Firelce® be used with any nozzle?**
Yes; when Firelce® powder is batch mixed at the recommended viscosities, it is compatible with all standard fog, straight stream, adjustable and most automatic nozzles.
- 4** **Will Firelce® affect the float gauges in airtankers or engines?**
No; Firelce® has been tested on a variety of floats and will not affect their functionality or readings.
- 5** **Does water quality and temperature affect viscosity and mix ratios?**
Yes; water temperature, salinity, pH, chlorine, and mineral content can all slightly affect mix ratios. Unlike Long Term Retardant products, which require exact mix ratios for the corrosion inhibitors to be effective, Firelce® mix ratios are variable and are mixed to finished viscosity, not to a percentage.
- 6** **Can I use a refractometer for quality control testing?**
No; there is no salt content in Firelce®, so refractometers will not show any meaningful readings. Viscosity testing using a marsh funnel is the recommended method for quality control.
- 7** **Is Firelce® safe for asphalt tarmacs and pavement?**
Yes; Firelce® is completely safe for tarmacs, even when spilled accidentally, however, some "elastomer" fire chemicals are able to penetrate the surface and destroy asphalt binders, ruining the tarmac or pavement.



Photo Credit: Douglas Forest Protective Association



CUTTING-EDGE FIRE CHEMICALS AND DELIVERY TECHNOLOGIES

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