

MAXIMIZE THE EFFECTIVE CAPACITY OF AIRCRAFT WITH BLAZETAMER380™

Wildland Fire Agencies have access to BLAZETAMER380™, a liquid concentrate water enhancer, used for direct attack of wildfires. Use of this polymeric-based water enhancer requires fewer aircraft drops to more quickly control wildfires.

BLAZETAMER380 increases the efficiency of water by linking water molecules to absorb more heat energy, while also providing additional benefits:

- Improved drop characteristics
- Less evaporation between the time the suppressant is released from the aircraft and before making contact with burning fuels
- Less drift from the target area
- Vertical fuels are coated as enhanced water transcends the canopy to reach ground fuels
- RH is decreased under a canopy for up to 2 hours, allowing ground firefighters to engage the fire
- Cost savings from fewer flight hours required to contain fires
- Increased safety due to less exposure to hazards, reducing risk

HAZARDS X EXPOSURE = RISK



The combined effect of these benefits ultimately helps to decrease fire size since each drop covers more lineal feet of fire-line, fewer drops are required, and wildfires are more quickly controlled.

The result is fewer acres burned, fewer flight hours required, significant cost savings and perhaps most importantly, increased safety due to less exposure to hazards for firefighters, including pilots working in the smoky, low-level and often congested airspace above fires.

BLAZETAMER380™ is approved for use in all types of aircraft, in helicopter dip tanks and all types of ground equipment, including engines and all-terrain vehicles.

Advancements in aircraft and suppressant technology have been key to the evolution of aerial firefighting. Aerial firefighting was once limited to the use of water in helicopters with buckets and retardant in land-based airtankers. The ability to inject BLAZETAMER380™ into helicopters with tanks and buckets and into water-scooping and land-based airtankers with on-board injection systems provides new options for firefighters.



BLAZETAMER380™ is non-toxic, non-corrosive, environmentally safe and is over 99% water. It is approved for use by many State, County, Tribal and Federal Agencies. It is currently used across the U.S. (including Alaska, Arizona, Colorado, Florida, Idaho, Kansas, Minnesota, North Carolina, Oregon, South Carolina, Wisconsin, and by the BIA) as well as internationally by agencies and private vendors around the world.

The advantages of using BLAZETAMER380™ can only be realized if ground and aerial firefighters fully understand the benefits and are willing to use it. Firefighters at all levels, including individuals on engine and hand crews, aerial firefighters, members of Critical Incident Management Teams, and those in leadership positions must be informed, request and be trained to use the proper suppressant for the given situation and tactics.

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BLAZETAMER380™ FACTS

All products that are listed on the USFS Qualified Products List (QPL) are evaluated, qualified, and approved by the USFS and may be used on wildland fires on Federal, State, Tribal, County and other agency jurisdictions.

To view the QPL, go to:

https://www.fs.usda.gov/rm/fire/wfcs/documents/2024-0605_qpl_WE.pdf

What is a Water Enhancer?

A product that contains polymers or other thickeners and relies primarily on the water it contains for fighting fires. **There are two different types of products listed on the QPL under the Water Enhancer category, gels and elastomers.** Both types minimize drift during aerial application. Gel products absorb water molecules to enhance performance and are designed to adhere to fuels to build a thick, protective layer. **Elastomers are less viscous and are not designed to adhere to vertical fuels.** They bind water molecules together, allowing treated water to penetrate through the canopy to reach ground fuels, while coating vertical fuels.

What is BLAZETAMER380?

It is not a gel, nor does it perform as a long-term retardant.

BLAZETAMER380™ is an uncolored liquid concentrate polymeric elastomer. It is a direct attack suppressant that, due to an endothermic reaction, drastically reduces thermal energy when applied to fires and results in more effective extinguishment of fires.

Mix Ratios

Tank Size (Gallons)	Mix Rate 0.2%	Mix Rate 0.32%	Mix Rate 0.4%	Mix Rate 0.65%
5	0.01	0.016	0.02	0.0325
100	0.2	0.32	0.4	0.65
250	0.5	0.8	1	1.625
500	1	1.6	2	3.25
1000	2	3.2	4	6.5

BLAZETAMER380™ is listed on the QPL at a mix rate of 0.65%. BLAZETAMER Pty Ltd, manufacturer of **BLAZETAMER380™**, recommends a range of mix ratios, between 0.2%-0.65%. Research confirms that mixing **BLAZETAMER380™** at more diluted rates than 0.65% does not cause corrosion, and maintains drop characteristics and effectiveness when dropped from aircraft. Mix rates of 0.2% in helicopters and 0.4% in airtankers have proven effective on wildfires. Federal agencies must use products listed on the QPL at the specified mix ratios.

State, County and Tribal agencies may choose to use a more diluted mix ratio, from 0.2%-0.65%, to use less product and save money.

Application

BLAZETAMER380™ is more effective for direct attack of wildfires than water, foam and retardant.

- More efficient than water and foam since water molecules are linked together which results in less evaporation caused by wind shear when leaving the aircraft and from thermal energy above fires.
- More efficient than retardant for direct attack since >99% of **BLAZETAMER380™** is water and weighs 8.3 lbs/gallon. Retardant weighs 9.3 lbs/gallon and is designed and best-used for indirect attack. Retardant is comprised of 85% water and 15% salt, thickeners and other additives that remain effective after the water evaporates.

BLAZETAMER380™, like other water enhancers, is not an effective suppressant after the water has evaporated (usually 30-45 minutes after application). Tests in Canada show it increases humidity in the sub-canopy by 20% for up to 2 hours, reducing fire intensity and allowing ground firefighters to engage.

BLAZETAMER380™ is approved on the QPL for use in all types of aircraft, including: helicopters with both fixed tanks and buckets, multi and single engine scoopers, SEATs, LATs/ VLATs and in ground equipment. **BLAZETAMER380™** meets the requirements for application from all airtankers and can be used in agency-owned or contracted LATs/VLATs if the contracting agency allows this use. Current Forest Service policy does not permit use of water enhancers by USFS-contracted multi-engine airtankers.

Safety

BLAZETAMER380™, as well as other water enhancers and retardant, may cause increased slipperiness when present on the ground or equipment. Mitigations can be achieved through briefings, proper PPE and awareness. An overall risk assessment for firefighter safety should also include the positive effects of using **BLAZETAMER380™** for direct attack, that include: quicker control of fires, fewer chains of fire line, fewer encounters with hazard trees and snags, less time and energy required for mop up and fewer hours of flight time required that places pilots in a congested and smoky airspace above the fire.

For more information, view the Training Modules, under the "Resources" tab at www.blazetamer.com