NEWS UPDATE – JUNE 2017

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BLAZETAMER380 is getting established as a reliable, easy to use and effective fire suppressant in the United States after years of development, testing and positive results on wildfires in Australia.

Water Enhancers are relatively new in the fire suppression game. There has been much discussion and information shared about different products over the last few years that has caused some excitement and a little angst among potential users. It can be overwhelming when comparing the costs and benefits of the Water Enhancers that are available to you in today's market.

Please consider BLAZETAMER380 as an alternative to foam and retardant for direct attack strategies on wildfires. Several state agencies are currently conducting initial testing and use of BLAZETAMER380 in both ground-based and aerial delivery systems. An increasing amount of information will be available to you as these agencies conclude their evaluations. I am confident that as the results from the field tests become available, where mixing, storage, use and effectiveness of water enhancing products are compared, BLAZETAMER380 will be at the top of the list.

Here is a list of Agencies in the US who are currently using or plan to use/evaluate BLAZETAMER380 in 2017.

- Alaska Division of Forestry – CV-580 Air Tankers, engines
- Colorado Department of Fire Prevention & Control – SEAT base in Rifle, CO
- Florida Forest Service – Engines, SEAT
- Idaho Department of Lands – FireBoss*, SEATs
- Minnesota DNR – FireBoss*, SEATs, Engines, Tracked Vehicles
- New Jersey Forest Service – Engines, Helicopters, SEATs
- North Carolina Forest Service - SEATs
- Pennsylvania DCNR – SEATs
- Texas A&M - Engines
- US Fish & Wildlife – Alaska – Engines, large tankers (if approved)
- Washington DNR – Helicopters, FireBoss*, SEATs, Engines
- Wisconsin DNR – Engines

* in conjunction with the Pays On-Board Injection System

Agencies are working and evaluating at a pace that they are comfortable with. Several are trying a small amount of BLAZETAMER380 in their engines before placing a large order or adding it to their aerial program.

The Colorado Center of Excellence for Advanced Technology Aerial Firefighting (CoE), with support from the DFPC's Aviation Unit and the BLM, is conducting a study during the 2017 wildland fire season to evaluate the effectiveness of water enhancers on wildfires by using SEATs to test three products.
Read more: https://www.colorado.gov/pacific/dfpc/aerial-application-water-enhancer-study

Results from this and other studies will be shared as they become available. Please contact Bill Schuster with questions, concerns or for more information, samples or a quote to get you started using BLAZETAMER380.

Facts

All products that are listed on the Qualified Products List (QPL) are qualified for use on any wildfire, on both federal or other agency jurisdiction. These products are evaluated, qualified, and approved for use by the USFS. For more information and to view the QPL, go to: https://www.fs.fed.us/rm/fire/wfcs/index.htm

What is a Water Enhancer? A product that contains polymers or other thickeners and relies primarily on the water it contains for firefighting. These products are available as wet or dry concentrates. **There are two different types of products listed on the QPL as water enhancers, gels and elastomers**. Both types minimize drift during aerial application. **Gel products absorb water molecules** to enhance performance as they adhere to fuels to build-up of a thick, protective wet layer. **Elastomers bind water molecules together** in a lineal fashion to allow the product to coat fuels while also allowing it to penetrate through the canopy to reach ground 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.

Water quality: Gels are affected by water's natural pH and salinity, including retardant salts. Gel products necessarily fluctuate their mix ratios based upon water quality. The ability for BLAZETAMER380 to form bonds with water molecules is not affected by water quality, including pH and salinity, therefore mix ratios remain constant**. BLAZETAMER380 is not affected by residual amounts of retardant that may be present in aircraft tanks or loading equipment.**

Mix Ratios: Research confirms that mixing BLAZETAMER380 at rates lower than the rate listed on the QPL does not cause intergranular corrosion. Federal agencies must use products listed on the QPL at the specified mix ratios. BLAZETAMER380 is very effective and is listed on the QPL at a rate of 0.65%. Individual agencies set specific policies relating to water enhancer use, as stated in the QPL. Non-federal agencies may choose to mix at rates outside of QPL listed mix ratios. Rates of 0.4% and 0.2% have proven effective on wildfires.

Application:

- **BLAZETAMER380 is more effective for direct attack suppression efforts than foam and retardant.**
    - More efficient than foam since water molecules are bonded together and results in less evaporation caused by wind shear when leaving the aircraft and from thermal energy above the fire.
    - More efficient than retardant since 100% of a load of BLAZETAMER380 is effective on fuels and weighs 8 lbs/gallon while only 85% of a load of retardant is effective due to water content and weighs 9 lbs/gallon.
- BLAZETAMER380, like other water enhancers, is not effective when water has evaporated (usually 30-45 minutes after application), therefore retardant is best for indirect attack suppression efforts since 15% of a load of retardant contains salts and other components that remain effective after the water evaporates.
- BLAZETAMER380 is approved under the QPL for use in ground equipment and all types of aircraft, including: helicopters with both fixed tanks and buckets, SEATs/FireBoss, and mutli-engine or large air tankers.
    - Current Forest Service policy does not allow application of water enhancers by large airtankers, however BLAZETAMER380 meets the requirements for application from multi-engine aircraft and can be used in large airtankers by those agencies whose policy permits its use in agency owned or contracted aircraft.
- BLAZETAMER380 may cause issues if mixed with other water enhancers in injection systems, therefore injection equipment should be thoroughly rinsed before changing from one product to another

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 fireline, 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. **Identifying, evaluating, mitigating and managing risks are all part of the risk management process.**