

Module 1

What is BLAZETAMER380™



*Use Video links to see how easily
BLAZETAMER380™ mixes and drop
characteristics from various aircraft*





BLAZETAMER380™ TRAINING MODULES

- **Module 1 – What is BLAZETAMER380™**
- **Module 2 – Why Use BLAZETAMER380™**
- **Module 3 – Tactics & Proper Use**
- **Module 4 – Mixing & Transferring BLAZETAMER380™**
- **Module 5 – Storage, Maintenance & Best Practices**
- **Module 6 – Airtanker Base, Helicopter Dip Tank & On-Board Operations**

BLAZETAMER380™ IS A WATER ENHANCER



The USFS tests and lists approved fire suppressants in three categories:

- Long-Term Retardants
- Class A Foam
- Water Enhancers

Chemicals approved and listed on the USFS Qualified Products List (QPL) may be used on any wildfire.

Many Agencies, worldwide, use only wildland fire chemicals that are listed on the QPL.

WATER ENHANCERS



- Increase efficiency of water as a fire suppressant
- Increase hydrated film to create a thermal protective coating & absorb heat energy
- **BLAZETAMER380™** links water molecules to retard impede water evaporation & reduce atomization, resulting in decreased wind drift
- **BLAZETAMER380™** coats fuels as it transcends the canopy to also treat ground fuels

WATER ENHANCERS



All wildland fire chemical products must go through an extensive evaluation before they are qualified for use.

The evaluation, performed by the USFS Wildland Fire Chemicals Program includes testing for:

- **Uniform and intergranular corrosion**
- **Product stability**
- **Fire retarding effectiveness**
- **Physical parameters**
- **Mammalian toxicity: oral, dermal, eye and skin**
- **Human Health and Ecological Risk Assessments**

WATER ENHANCER QPL



US Forest Service

Washington Office

Fire & Aviation Management



October 5,
2020

Water Enhancers for Wildland Fire Management

Qualified By US Forest Service in Accordance with Forest Service Specification 5100-306b

These products are evaluated, qualified, and approved for use only at the specified mix ratio range with the indicated application equipment.

Consult individual agencies for specific policies relating to water enhancer use. Please review the Notes for Selection and Use

Definition: Water Enhancers contain ingredients that alter the physical characteristics of water to increase effectiveness and adhesion to fuels. They are not retardants. They depend on the water they contain for their effectiveness.

Chemical	Mix Ratio ¹		Qualified Applications ²				Ground Engine
			Fixed-Wing Airtanker		Helicopters		
			Multi Engine	SEATS	Fixed-Tank	Bucket	
Uncolored Concentrates							
Barricade II	1.0%		3	●	-	●	●
Barricade II	1.0% - 3.0%		-	-	-	●	●
Thermo-Gel 200L	0.5% - 3.0%		3	●	-	●	●
Thermo-Gel 500P	0.4% - 0.5%	[0.03-0.04 lb/gal]	3	●	●	●	●
Thermo-Gel 500P	0.4% - 1.2%	[0.03-0.10 lb/gal]	3	●	-	●	●
Firewall II (formerly Wildfire AEG Firewall II)	0.25% - 3.0%		3	●	●	●	●
BioCentral Blazetamer 380	0.65%		3	●	●	●	●
FireIce 561	1.4% - 2.1%	[0.12–0.18 lb/gal]	3	●	-	●	●
Phos-Chek Insul-8	0.37%		3	●	●	●	●
Phos-Chek Insul-8	>0.37% - 1.0%		3	●	-	●	●
Phos-Chek Insul-8	>1.0% - 3.0%		-	-	-	●	●
EarthClean TetraKO XL-P	0.5%-1.5%	[0.04-0.13 lb/gal]	3	●	-	●	●
Colored Concentrates							
FireIce HVB-Fx	1.7%-2.7%	[0.14-0.23 lb/gal]	3	●	-	●	●
Notes							
1 Each product is qualified for the specified mix ratio or range. Mixtures outside the mix ratio or mix ratio range shown are not qualified for use. Mix ratio is described as the percentage of product in water. Mix ratios for dry concentrates may also be described as pounds of concentrate added to 1 gallon of water. This description is shown in brackets.							
2 Qualification Notes							
● Fully Qualified – Product complies with all requirements of a formal specification.							

Scan QR Code to view
BLAZETAMER380™ SDS:



BLAZETAMER380™



When mixed with water, BLAZETAMER380™ links water molecules by forming strong hydrogen bonds to create a liquid with viscoelastic properties.



- **Viscoelasticity is the behavior of materials with both viscous fluid and elastic properties at the same time.**
- **Considered viscous fluid because they are capable to creep after strain is caused due to the application of stress.**
- **Considered elastic because they are capable to recover after strain is caused due to the application of stress.**

BLAZETAMER380™



- **Viscoelasticity accounts for the unique shear-thinning and shear-thickening characteristics of BLAZETAMER380™**
- **Increased stress, such as when BLAZETAMER380™ is introduced to the airstream, allows shear-thickening properties to manifest and provide superior drop characteristics.**
- **The same increased stress causes non-enhanced water and foam to break apart.**
- **After BLAZETAMER380™ contacts fuels and forces from the airstream are no longer present, shear-thinning properties allow gravity to pull it through the canopy to penetrate and coat fuels**
- **Viscoelastic properties differentiate BLAZETAMER380™ from gels since gels are only shear-thinning.**

BLAZETAMER380™



- **Water-soluble linear polymer**
- **Uncolored liquid concentrate**
- **Unaffected by water quality, salinity, or pH**
- **Mix ratios remain constant**
- **Blends readily with water with mild or moderate agitation**
- **Environmentally Safe - degrades under UV**
- **Remains active on the ground for 30-45 minutes,
depending on coverage levels, temperature and RH.**
- **Increases RH under canopy for up to 2 hours**

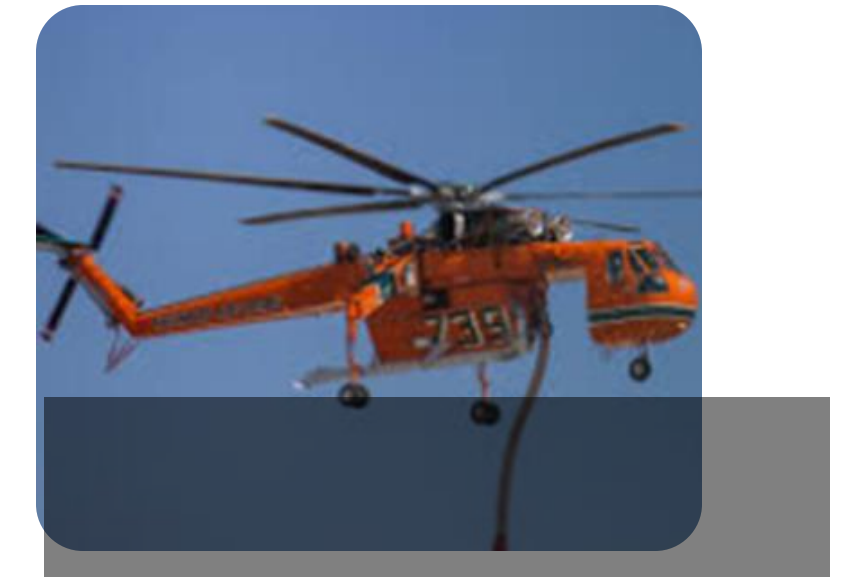
BLAZETAMER380™

The weight of a load of mixed BLAZETAMER380 is slightly less than a load of water.

- **Water weighs 8.345 lbs./gallon**
- **BLAZETAMER380™ weighs 8.328 lbs./ gallon**
- **Since mixed BLAZETAMER380™ is over 99% water, use 8.3 pounds/gallon when determining the weight of a load.**



EVOLUTION OF FIREFIGHTING



Equipment, Aircraft & Suppressants have Evolved over Decades

BLAZETAMER380™ is available through Current Technology

Wildland Fire Agencies Research, Test & Adopt - Everyone Benefits

OUR BRANDS:



BLAZETAMER380™ is an elastomer used for increasing the efficiency of water for the direct attack of class A fire suppression. It the first polymeric elastomer of its type in the world, to be listed on the USDA-FS qualified products listing (QPL).



AquaBoostAG is a patented polymer solution which increases irrigation and fertiliser efficiency by altering soil hydraulics, slowing the infiltration of moisture through the soil profile, promoting lateral spread and maintaining water and nutrients in the root zone for a longer period.



Polycom is a road base materials stabilisation agent. When mixed with the water on site it delivers a longer lasting running surface. Roads treated with PolyCom have lasted up to four times longer before requiring the regular maintenance programs as scheduled. This contributes significantly to long term asset management plans.



DustChek is a new generation dust control product specifically formulated for today's challenging dust control problems in the mining industry. DustChek improves and stabilises unpaved haul road surfaces by saturating and bonding dust and aggregate particles together.

Module 1

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