



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 <sup>1</sup>		Qualified Applications <sup>2</sup>				
			Fixed-Wing Airtanker		Helicopters		Ground Engine
			Multi Engine	SEATS	Fixed-Tank	Bucket	
<b>Uncolored Concentrates</b>							
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 AFG Firewall II)	0.25% - 3.0%		3	●	●	●	●
BioCentral Blazetamer 380	0.65%		3	●	●	●	●
Firelce 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	●	-	●	●
<b>Colored Concentrates</b>							
Firelce HVB-Fx	1.7%-2.7%	[0.14-0.23 lb/gal]	3	●	-	●	●
<b>Notes</b>							
1	Each product is qualified for the specified mix ratio or range. Mixtures <b>outside the mix ratio or mix ratio range shown</b> are <b>not</b> 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						
	<ul style="list-style-type: none"> <li>● Fully Qualified – Product complies with all requirements of a formal specification.</li> <li>○ Conditional Approval – Product complies with all requirements in the specification for laboratory evaluation; a field evaluation is required for full qualification. Evaluations from the field are requested regarding effectiveness, ease of use and mixing. (Evaluation forms are available at <a href="http://www.fs.fed.us/rm/fire/wfcs/tests/index.htm">www.fs.fed.us/rm/fire/wfcs/tests/index.htm</a>. Select “Water Enhancer Evaluation” under Section 12 – Operational Field Evaluation Test.)</li> <li>- Not qualified for this application.</li> </ul>						
3	Forest Service policy does not allow application of water enhancers from large airtankers. These products meet the requirements for application from multi-engine aircraft for those agencies whose policy permits this use						



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### Colored Water Enhancers for Wildland Fire Management

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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 <sup>1</sup>	Qualified Applications <sup>2</sup>				
		Fixed-Wing Airtanker		Helicopters		Ground Engine
		Multi Engine	SEATS	Fixed-Tank	Bucket	
<b>Colored Products – 2 Components</b>						
<ul style="list-style-type: none"> <li>Each color is evaluated and approved for use with a specific product.</li> <li>Using a color qualified for use with one product in another product does not make a qualified product.</li> <li>Add color to water at the approved concentration and mix thoroughly. Use the colored water to dilute approved water enhancer concentrate to the approved mix ratio.</li> </ul>						
Thermo-Gel 200L Blue Mixed Product	0.1125% AV-B1 color in water 0.5%-3.0% Thermo-Gel 200L concentrate	3	•	-	•	•
Firelce 561 Cool Blue-F	2.0 g of Cool Blue-F colorant per gallon of water 1.4%-2.1% Firelce 561 concentrate by volume (0.12-0.18 lb/gal)	3	•	-	•	•
<b>Notes</b>						
<ol style="list-style-type: none"> <li>Each product is qualified for the specified mix ratio or range. Mixtures <b>outside the mix ratio or mix ratio range shown</b> are <b>not</b> 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.</li> <li>Qualification Notes <ul style="list-style-type: none"> <li>Fully Qualified – Product complies with all requirements of a formal specification.</li> <li>Conditional Approval – Product complies with all requirements in the specification for laboratory evaluation; a field evaluation is required for full qualification. Evaluations from the field are requested regarding effectiveness, ease of use and mixing. Evaluation forms are available at <a href="http://www.fs.fed.us/rm/fire/wfcs/tests/index.htm">www.fs.fed.us/rm/fire/wfcs/tests/index.htm</a>. Select “Water Enhancer Evaluation” under Section 12 – Operational Field Evaluation Test.)</li> <li>- Not qualified for this application.</li> </ul> </li> <li>Forest Service policy does not allow application of water enhancers from large airtankers. These products meet the requirements for application from multi-engine aircraft for those agencies whose policy permits this use.</li> </ol>						