

## Bright Orange Water Dye DYE-140

Wildfire Bright Orange water dye is a specially formulated version of Rhodamine WT dye for convenient use in fountians and other closed water systems. This bright, fluorescent dye is certified by NSF International to ANSI/NSF Standard 60 for use in water. It may be detected detected visually, by ultraviolet light and by appropriate fluorometric equipment. Today it is most often used visually. Visually the dye appears bright pink to red, depending on its concentration and under ultraviolet light as bright orange.

The dye is resistant to absorption on most suspended mater in fresh and salt water. Compared to Wildfire's Brilliant Yellow water dye it is significantly more resistant to degradation by sunlight and when used in fluorometry, stands out much more clearly against background fluorescence. As always the use and suitability of these products for any specific application should be evaluated by a qualified hydrologist or other industry professional.

<b>General Properties</b>	
Detectability of active ingredient <sup>1</sup>	Visual <100 ppb
Maximum absorbance wavelength <sup>2</sup>	550/588 nm
Appearance	Clear dark red
	aqueous solution
NSF (Max use level in potable water)	0.8 ppb
Specific Gravity	1.03 ± 0.05 @ 25 ⊕ C
Viscosity <sup>3</sup>	1.3 cps
рН	8.7 <u>+</u> 0.5 @ 25 ⊕ C

Coverage of Products	One Pint Liquid
Light Visual	31,250 gallons
Strong Visual	3,125 gallons

Caution: These products may cause irritation and/or staining if allowed to come in contact wit the skin. The use of gloves and goggles is recommended when handling this product, as with any other dye or chemical.

To our best knowledge the information and recommendations contained herein are accurate and reliable. However, this information and our recommendations are furnished without warranty, representation, inducement, or license of any kind, including, but not limited to the implied warranties and fitness for a particular use or purpose. Customers are encouraged to conduct their own tests and to read the material safety data sheet carefully before using.

<sup>&</sup>lt;sup>1</sup> In deionized water in 100 ml flask. Actual detectability and coverage in the field will vary with specific water conditions.

<sup>&</sup>lt;sup>2</sup> No significant change in fluorescence between 6 and 11 pH.

<sup>&</sup>lt;sup>3</sup> Measured on a Brookfield viscometer, Model LV, UL adapter, 60 rpm @ 25 C.



## Brilliant Yellow Water Dye DYE-144

Wildfire Brilliant Yellow Water Dye products are specially formulated versions of Xanthene dye, certified by NSF International to ANSI/NSF Standard 60 for use in water. This dye is the traditional fluorescent water tracing and leak detection material and has been used for labeling studies from the beginning of the century. It may be detected visually, by UV light and by appropriate fluoremetric equipment. Today it is most often used visually. This dye has been used by the military to mark downed pilots for search and rescue operations over large water bodies. Visually the dye appears yellow/green, depending on its concentration and under UV light as lime green.

Based on biochemical oxygen demand (BOD) studies, the dye is biodegradable with 65% of the available oxygen consumed in 7 days. The dye is resistant to absorption on most suspended matter in fresh and salt water. However, compared to Wildfire's Bright Red products it is significantly less resistant to degradation by sunlight and when used in fluoremetry, stands out much less clearly against background fluorescence. As always the suitability of these products for any specific application should be evaluated by a qualified hydrologist or other industry professional.

General Properties	
Detectability of active ingredient <sup>1</sup>	Visual <100 ppb
Maximum absorbance wavelength <sup>2</sup>	490/520 nm
Appearance	Reddish, brown
	aqueous solution
NSF (Max use level in potable water)	10.0 ppb
Specific Gravity	1.05 ± 0.05 @ 25 ⊕ C
Viscosity <sup>3</sup>	1.8 cps
pH	8.5 <u>+ 0</u> .5 @ 25 ⊕ C

Coverage of Products	One Pint Liquid
Light Visual	125,000 gallons
Strong Visual	12,500 gallons

Caution: These products may cause irritation and/or staining if allowed to come in contact wit the skin. The use of gloves and goggles is recommended when handling this product, as with any other dye or chemical.

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<sup>&</sup>lt;sup>1</sup> In deionized water in 100 ml flask. Actual detectability and coverage in the field will vary with specific water conditions.

<sup>&</sup>lt;sup>2</sup> No significant change in fluorescence between 6 and 11 pH.

<sup>&</sup>lt;sup>3</sup> Measured on a Brookfield viscometer, Model LV, UL adapter, 60 rpm @ 25 C.



## Deep Blue Water Dye DYE-146

Wildfire Deep Blue Water Dye is a specially formulated version of the dye Acid Blue 9. This dye is used for visual detection and fluoresces under ultraviolet light. It is sometimes used in fountians and other closed water systems for a decorative effect. Visually, the dye appears as aqua to royal blue depending on its concentration and activity of water.

Based on biochemical oxygen demand (BOD) studies, the dye is biodegradable with 77% of the available oxygen consumed in 7 days. Wildfire Deep Blue Water Dye has been certified by NSF International to the ANSI/NSF Standard 60 for use in water at specific levels. As always the suitability of these products for any specific application should be evaluated by a qualifed hydrologist or other industry professional.

<b>General Properties</b>	
Detectability of active ingredient <sup>1</sup>	Visual <100 ppb
Maximum absorbance wavelength <sup>2</sup>	630 nm
Appearance	Clear, dark blue
	aqueous solution
NSF, max use levels in potable water	1200 ppb
Specific Gravity	1.04 <u>+</u> 0.03 @ 25 []C
Viscosity <sup>3</sup>	1.8 cps
рН	5.2 <u>+</u> 1.0 @ 25 []C

Coverage of Products	One Pint Liquid
Light Visual	125,000 gallons
Strong Visual	12,500 gallons

Caution: These products may cause irritation and/or staining if allowed to come in contact wit the skin. The use of gloves and goggles is recommended when handling this product, as with any other dye or chemical.

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Deep Yellow Water Dye	DYE-145
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Wildfire Deep Yellow Water Dye is aspecially formulated version of Xanthene dye for convenient use in water tracing and leak detection studies. This fluorescent dye is certified by NSF International to ANSI/NSF Standard 60 for use in water. It may be detected visually, by ultraviolet light and by appropriate fluoremetric equipment. Today it is most often used visually. Visuallythe dye appears orange to red-orange, depending on its concentration and under ultraviolet light as deep yellow.

The dye is resistant to absorption on most suspended matter in fresh and salt water. However, compared to Wildfire Brilliant Yellow water dye it is slightly more resistant to degradation by sunlight but less resistant than our Bright Orange Dye As always the suitability of these products for any specific application should be evaluated by a qualified hydrologist or other industry professional.

<b>General Properties</b>	
Detectability of active ingredient <sup>1</sup>	Visual <100 ppb
Maximum absorbance wavelength <sup>2</sup>	515/535 nm
Appearance	Reddish-Orange
	aqueous solution
NSF (Max use level in potable water)	0.8 ppb
Specific Gravity	1.05 <u>+</u> 0.05 @ 25 □ C
Viscosity <sup>3</sup>	1.8 cps
рН	8.0 ± 0.5 @ 25 □C

Coverage of Products	One Pint Liquid
Light Visual	40,000 gallons
Strong Visual	4,000 gallons

Caution: These products may cause irritation and/or staining if allowed to come in contact wit the skin. The use of gloves and goggles is recommended when handling this product, as with any other dye or chemical.

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<sup>&</sup>lt;sup>1</sup> In deionized water in 100 ml flask. Actual detectability and coverage in the field will vary with specific water conditions.

<sup>&</sup>lt;sup>2</sup> No significant change in fluorescence between 6 and 11 pH.

<sup>&</sup>lt;sup>3</sup> Measured on a Brookfield viscometer, Model LV, UL adapter, 60 rpm @ 25C.