

## Fluorescent Microsphere Suspensions

### DESCRIPTION

The fluorescent microspheres are made of polystyrene and are dyed with blue, green or red fluorescent dyes. The dyes are incorporated into the polymer matrix (not surface dyed). They are packaged in deionized water with trace amounts of surfactant and preservative to inhibit aggregation and promote stability. They are packaged as aqueous suspensions at 1% solids by weight. They have a refractive index of 1.59 and a density of 1.06 g/cm<sup>3</sup>. Listed below are the spectral properties for the dyes. Full spectra are available at [www.dukescientific.com](http://www.dukescientific.com)

<b>Spectral Properties of Fluorescent Microspheres</b>			
<b>Specified Color</b>	<b>Excitation Maxima (nm)</b>	<b>Emission Maxima (nm)</b>	<b>Stokes Shift (nm)</b>
<b>Green</b>	<b>468 (blue)</b>	<b>508 (green)</b>	<b>40</b>
<b>Red</b>	<b>542 (green)</b>	<b>612 (red)</b>	<b>70</b>
<b>Blue</b>	<b>365 (UV)</b>	<b>447 (blue)</b>	<b>82</b>
	<b>388 (UV-violet)</b>	<b>447 (blue)</b>	<b>59</b>
	<b>412 (violet)</b>	<b>473 (blue)</b>	<b>61</b>

### HANDLING SUGGESTIONS

The particles must be thoroughly dispersed and resuspended before use. The suspension can be resuspended by gently inverting, rolling, or swirling the bottle, followed by a brief (15 second) immersion in a low power ultrasonic bath. The microspheres can be dispensed using the dropper tip or by using a clean pipette. A clean pipette can be used to take samples from the bottle. Shaking the bottle is not recommended, as the product may foam.

## **APPLICATIONS**

Many applications will require a more dilute suspension. The end-user may dilute these products with particle-free, deionized water. If the dilution is too great, or there appears to be some aggregation of the particles, a non-ionic or anionic surfactant may be added to stabilize the particles. Usually, 1 or 2 drops of a 1% surfactant solution should suffice. Generally, this will not be needed. We recommend dilution immediately prior to use as the diluted suspensions may not be stable for long periods of time. These products should not be suspended in organic solvents.

These products are intended for research and testing applications only. They are not suitable for calibration or applications that require NIST traceable mean diameters. The mean diameter of these products was determined by either photon correlation spectroscopy (PCS), laser diffraction, or optical microscopy. These products have an extremely wide range of applications. If you have questions about a specific application or are interested in a custom product, please feel free to contact us or visit our website.

## **LIMITED WARRANTY**

These products are intended for laboratory use by trained scientific personnel. Determination of their suitability for a specific end-use is the responsibility of the user, who assumes all liability for loss or damage arising out of the use of the product. Rebottling or relabeling voids the warranty and certification. Microgenics Corporation's warranty is limited to replacement of defective products if returned with our authorization within 60 days of purchase date.

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