Thermo Scientific
Dyed and Fluorescent Particles

Thermo Scientific Color-Rich Dyed and Fluoro-Max Fluorescent Particles provide superior test sensitivity in qualitative and quantitative lateral flow tests.

These particles are internally dyed using our Color-Rich internal dyeing method or proprietary Firefli fluorescent dyeing process. Color-Rich dyeing methods provide exceptional color saturation, prevent dye leaching in aqueous media, and leave the surface free for 1) covalent coupling through a COOH group, and 2) optimal immunological reactivity.

Color-Rich Dyed and Fluoro-Max fluorescent particles have been specifically designed for diagnostic lateral-flow rapid assay (membrane-based) applications. However, these particles can also be used in other applications such as clinical diagnostics, immuno/histological studies and molecular biology.

Thermo Scientific Dyed Particles

Color-Rich™ Dyed Carboxylate-Modified Particles

• 15 mL, 100 mL , 1000 mL, 2.5 - 4 % solids • Nominal diameter ~0.4 µm - 0.85 µm

Color-Rich dyed carboxylate-modified particles provide maximum color and brilliance, as well as immunologically reactive surfaces. Composed of polystyrene or polystyrene with a copolymer grated surface for fast coupling and processing reactions, these hydrophilic particles enable users to optimize assays by controlling sensitivity, specificity and stability; are available in blue, red or black internally dyed versions; can bind ligands without any dye interference; feature high protein binding capacity; and have an optimized acid content.

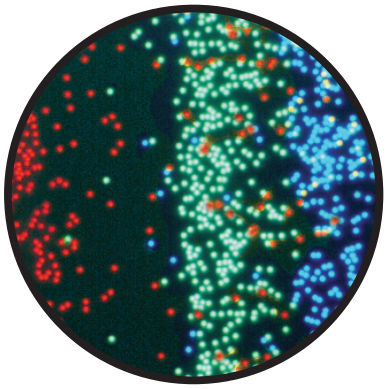
ChromoSphere™ Dyed Particles-Dry (for specialized applications)

• 1 gram, 100 % solids • Nominal diameter ~50 µm - 500 µm

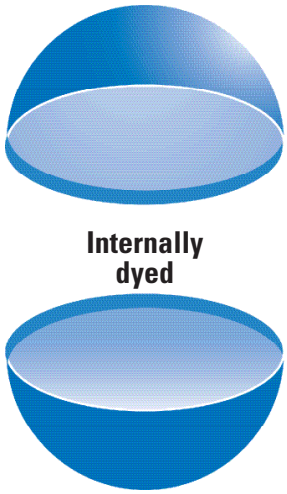
ChromoSphere polymer particles are internally and deeply dyed with red or black dyes. These intense colors result in very high contrast and visibility relative to most background materials. They are available as dry powders and can be easily suspended in aqueous media with the aid of a small amount of surfactant, or in lower alcohols such as methanol or ethanol.

Made from cross-linked polystyrene divinylbenzene (PS-DVB) copolymer, these particles consist of a large assortment of uniform, red or black particle sizes between 50 µm and 500 µm. They should be stored at room temperature.

Minimal dye extraction will occur when the particles are suspended in pure alcohols. Other organic solvents, such as ethers or chlorinated hydrocarbons, should be avoided because they will swell the particles and extract the dye.



Dyed red, green and blue Flouro-Max flourescent particles can be detected by epilfluorescence or confocal microscopes, and fluorometers, fluorescence spectrophotometers, and flourescence activated cell sorters.



Internally dyed Color-Rich and Flouro-Max particles prevent dye leaching while providing optimal color and brilliance, and a dye-free surface for coupling.

Thermo Scientific Fluorescent Particles

Fluoro-Max™ Carboxylate-Modified and Streptavidin-Coated Europium Chelate Particles

• 1 mL, 5 mL, 100 mL • 1 % solids • Nominal diameter ~ 0.1 µm - 0.3 µm (Sample Pack available)

The Fluoro-Max fluorescent particles are made by dyeing OptiLink carboxylate-modified particles with europium chelate and are available in standard 0.1 µm, 0.2 µm, and 0.3 µm diameters. They are dyed internally to prevent dye leaching and to assure maximum surface immunoreactivity. These particles have been specifically designed for membrane or automated fluorometric-based applications. With an extremely broad Stokes shift, Fluoro-Max europium chelate particles help prevent non-specific fluorescence interference. Fluoro-Max particles may be used in a variety of applications such as clinical diagnostics, immuno/histological studies and research applications.

Flouro-Max Particulate Markers (for myocardial infarction studies)

• 1 or 5 grams • 1 % solids • Nominal diameter ~ 1 µm - 10 µm

Flouro-Max particulate markers are effective for myocardial infarction studies because they lodge in the capillaries and are easily visualized under fluorescent illumination. This is unlike Evans blue, India ink and fluorescein dyes and particulate markers, which tend to rapidly migrate throughout the tissue making the risk zone difficult to identify. These polymer particles contain a special fluorescent dye that excites efficiently with a hand held UV lamp (i.e., Wood's Lamp). The fluorescence is a brilliant yellow-green color. The particles are spherical, 1-10 µm in diameter, and have a density of 1.05 g/cm^3. This makes them easy to suspend in an aqueous medium.

The particles are heavily loaded with dye, resulting in a very strong, easily seen fluorescence. They are invisible under white light, allowing the non-risk tissue to be examined for infarction. Since the dye is embedded in the interior of the particles, it does not leach out or cause indiscriminate staining.

Fluoro-Max Dyed Green, Red, and Blue Aqueous Particles (for contamination control and flow tracing)

• 15 mL or 90 mL • 1 % solids • Nominal diameter ~ 0.03 µm - 0.20 µm

Fluoro-Max fluorescent particles emit bright and distinct colors when illuminated by the light of shorter wavelengths which improves their contrast and visibility relative to background materials. As a result, these particles offer improved sensitivity and detectability for analytical methods.

These internally dyed polymer particles utilize the Firefli process to incorporate the dye throughout the polymer matrix. This produces bright fluorescent colors, minimizes photo bleaching, and prevents dye leaching into aqueous media.

Made of polystyrene, these particles have a density of 1.05 g/cm^3 and a refractive index of 1.59 @ 589nm (25°C). They can be detected with an epifluorescence microscope, confocal microscope, fluorometer, fluorescence spectrophotometer, or an fluorescence activated cell sorter. They can also be detected using mineral light or black light (UV).

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