

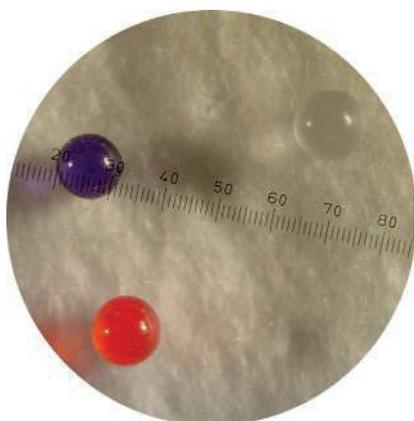
# Thermo Scientific Chromosphere-T Size Standards

- NIST traceability provides third party reference
- Validates filter and cleaning systems
- Intense black and red colors provide high contrast

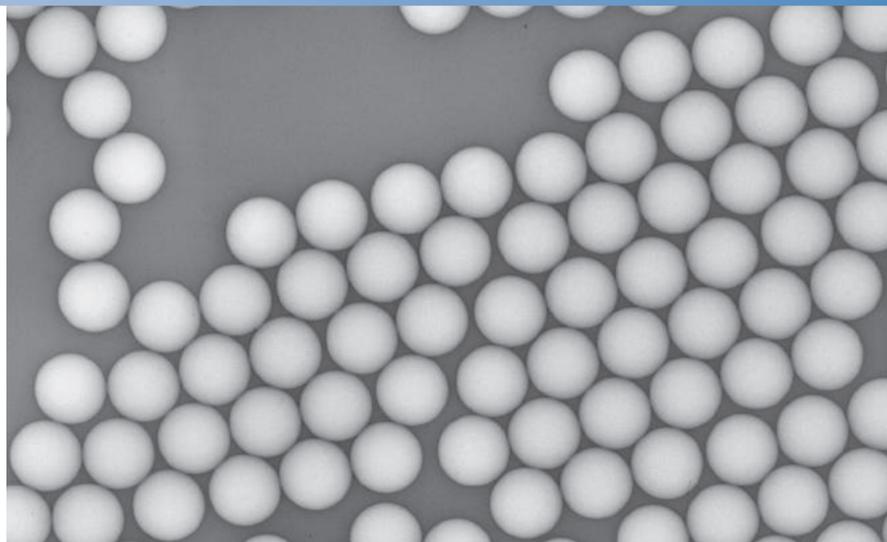
Chromosphere-T Certified Size Standards are designed for use as reference or calibration materials in applications where high contrast is required.

To accomplish this, our polymer particles are deeply and internally dyed with intense red or black colors that stand out and are highly visible against most background materials.

The diameters are also traceable to the Standard Meter of the National Institute of Standards and Technology (NIST) and are calibrated by optical microscopy.



In the above image, the red and black Chromosphere-T Certified Size Standard particles clearly stand out against the filter media as compared to the blank, undyed particle.



Thermo Scientific ChromoSphere-T Certified Size Standards are available in a wide range of uniform, NIST traceable nominal diameter sizes from 50  $\mu\text{m}$  up to 500  $\mu\text{m}$ .

This makes them ideal for providing a third-party reference when validating filter and container cleaning systems.

The particles come in red or black colors that contrast extremely well against such background materials as glass or plastic bottles, filters, and almost any media that is not red or black in color.

As a result, these particles are easily identified when counted, and will not be mistaken as other particulate matter that could be in the sample.

This is particularly advantageous in a wide variety of applications such as:

- Testing the effectiveness of filtration media and systems
- Testing the effectiveness of vial and container cleaning systems
- Conducting flow tracing and monitoring fluid mechanics
- Checking for and controlling contamination
- Analyzing sedimentation processes
- Analyzing pharmaceutical manufacturing processing

Chromosphere-T Certified Size Standards are available as dry powders and, if desired, can be easily suspended in aqueous media.

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### Handling Information

ChromoSphere-T Size Standards are made from cross-linked polystyrene divinylbenzene (PS-DVB) copolymer that needs to be stored at room temperature. They can be dispersed in aqueous media with the aid of a small amount of surfactant or in lower alcohols such as methanol or ethanol. Some dye extraction will occur when the particles are suspended in pure alcohols, but it will be minimal. Other organic solvents, such as ethers or chlorinated hydrocarbons, should be avoided because they will swell the particles and completely extract the dye.

### Specifications

Composition	Cross-linked polystyrene divinylbenzene (PS-DVB)
Format	Dry
Index of Refraction	1.59 @ 589 nm (25°C)
Additives	None
Expiration Date	≥ 24 months (from date of shipment)
Documentation	Certificate of Calibration and Traceability to NIST, and Material Safety Data Sheet (MSDS)
Storage and Handling	Unless otherwise stated, store at ambient room temperature. Store upright and keep bottle tightly sealed before dispersing into the instrument.

Nominal Diameter	Bottle Size	Approximate Count Per Gram	Color	Catalog Number
50 µm	1 gram	1.5 x 10 <sup>7</sup>	Red	RD050T
100 µm	1 gram	1.8 x 10 <sup>6</sup>	Red	RD100T
150 µm	1 gram	5.4 x 10 <sup>5</sup>	Red	RD150T
200 µm	1 gram	2.3 x 10 <sup>5</sup>	Red	RD200T
300 µm	1 gram	6.6 x 10 <sup>4</sup>	Red	RD300T
400 µm	1 gram	2.8 x 10 <sup>4</sup>	Red	RD400T
500 µm	1 gram	1.4 x 10 <sup>4</sup>	Red	RD500T
50 µm	1 gram	1.5 x 10 <sup>7</sup>	Black	BK050T
100 µm	1 gram	1.8 x 10 <sup>6</sup>	Black	BK100T
150 µm	1 gram	5.4 x 10 <sup>5</sup>	Black	BK150T
200 µm	1 gram	2.3 x 10 <sup>5</sup>	Black	BK200T
300 µm	1 gram	6.6 x 10 <sup>4</sup>	Black	BK300T
400 µm	1 gram	2.8 x 10 <sup>4</sup>	Black	BK400T
500 µm	1 gram	1.4 x 10 <sup>4</sup>	Black	BK500T

[thermoscientific.com/particletechnology](http://thermoscientific.com/particletechnology)

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