

# Microsphere Overview

*Solutions for every need!*

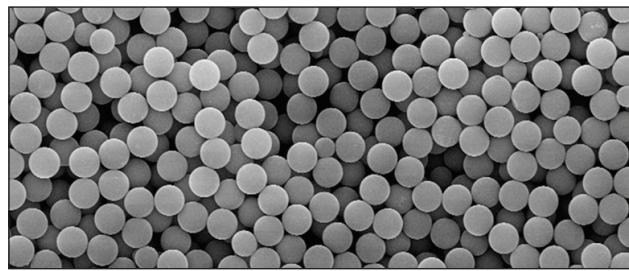
Polysciences, Inc. is a manufacturer of quality specialty microspheres for a variety of immunoassay, molecular biology, and cell biology applications. We supply polymeric, silica, and superparamagnetic particles offered with a variety of surface functional groups, with plain and fluorescent dyes, and pre-coated with generic binding proteins, such as streptavidin and secondary antibodies. Our QuantumPlex™ beads offer a unique platform for multiplexed analysis of analytes, and our Flow Cytometry products provide standardization and calibration tools that lead the industry in quantitative flow cytometry. Our catalog also contains many types of instrument standards, including size, count, and cell viability products.



## POLYMER MICROSPHERES

We offer uniform polymer microspheres that may be used “as-is” for standards or markers, or coated with proteins via adsorption for use in diagnostic tests and assays. Our functionalized polystyrene (PS) microspheres are suitable for the covalent immobilization of proteins, peptides, and nucleic acids. Our PS microspheres are available in diameters from ~50nm-20µm (functionalized) and ~50nm-90µm (non-functionalized), with typical size CVs of 5-10%. Most products are supplied at 2.5% solids in aqueous suspension.

Our polystyrene-based spheres are also available in visibly dyed or fluorescently labeled versions.



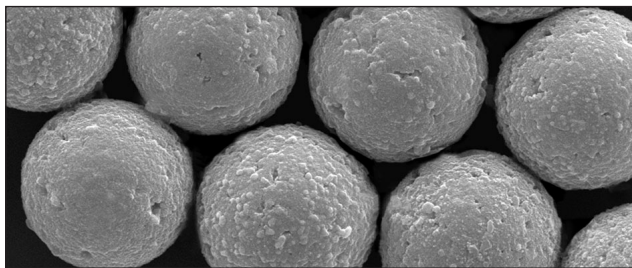
## SILICA MICROSPHERES

Polysciences offers uniform, non-porous silica ( $\text{SiO}_2$ ) microspheres available in diameters of ~150nm-5µm. These particles typically have size CVs of 10-15%. Standard silica include both non-functionalized products or products with carboxyl, amine, or streptavidin functionalities. Suspended and dry preparations are available.

Inorganic supports such as silica microspheres have become increasingly important for a variety of applications, including isolation of nucleic acids, cell separation, and immuno- and DNA-based assays.

They offer the combined benefits of a broad platform and the unique properties of a silica substrate:

- Flexible silanization chemistries
- Unique refractive index and density
- Low autofluorescence
- Low nonspecific binding of many biomolecules
- Hydrophilicity
- Ease of handling



## SUPERPARAMAGNETIC MICROPARTICLES

Superparamagnetic particles have been used extensively in diagnostics and other research applications for the purification of cells and biomolecules, such as antibodies, nucleic acids, and proteins. They confer a number of benefits, including ease of separation and suitability for automation. When coated with recognition molecules, magnetic microspheres are ideal for the efficient capture and separation of target. Unwanted sample constituents may be washed away following a simple magnetic separation step.

Our superparamagnetic microparticles, including BioMag<sup>®</sup> and ProMag<sup>™</sup>, and QuantumPlex<sup>™</sup> M allow us to uniquely address a wide range of applications in the life sciences, from cell separations and immuno and molecular assays to suspension arrays and flow cytometry.

## INSTRUMENT STANDARDS

Polysciences offers an extensive catalog of instrument standards, from NIST Traceable Size Standards to SureCount<sup>™</sup> Particle Count Standards. We have an extensive catalog of dedicated standards for Flow Cytometry, and offerings for Cell Viability Analyzers (ViaCheck<sup>™</sup>) and Fluorescence Microscopes.

If a product that you require is not listed in our catalog, please check our website as our product line is continually expanding. For special requirements, please contact us regarding our custom synthesis and contract manufacturing services.

Order online anytime at [polysciences.com](https://www.polysciences.com)