

Monodisperse PS Spheres

Polystyrene spheres synthesized with exceptionally narrow size distributions.

Monodisperse latex spheres in various sizes (each with a density of 1.05 g/cm³), including average diameters of:

- 0.099 micrometers (Dow Diagnostic Products LS 1048-E)
- 0.170 micrometers (Dow Diagnostic Products LS 1101-A)
- 0.280 micrometers (Dow Diagnostic Products LS 1019-E)
- 0.310 micrometers (Dow Diagnostic Products LS 1121-B)
- 0.320 micrometers (Dow Diagnostic Products LS 1122-B)
- 0.330 micrometers (Dow Diagnostic Products LS 1131-B)

Select the desired sizes and quantities during the checkout process.

Samples have a typical polydispersity in diameter of 3% or less, as determined by scanning electron microscopy (Zeiss MERLIN), dynamic light scattering (LS Spectrometer) and holographic particle characterization (Spheryx xSight).

Particles are ready for use as shipped. Standard samples consist of aqueous 5 mL suspensions at 2% w/v particles, with 0.02% sodium azide added as an anti-microbial agent. Samples with custom volumes and solids contents are available upon request.

Particles with diameters smaller than 0.5 µm were prepared by conventional emulsion polymerization with a persulfate-ion free-radical initiator. Larger particles were prepared by seeded emulsion polymerization using smaller particles as seeds. Particles from these specific production runs have been featured prominently in numerous scientific and engineering publications, including:

Technology ID

PS Spheres

Category

Express Licenses
Engineering & Physical Sciences/Materials
Colloid Synthesis Facility

Arundithi Ananthanarayanan

Authors

David Grier, PhD
Andrew Hollingsworth, PhD

[View online](#)



- *A Re-determination of the Diameters of Dow Polystyrene Latex Spheres*, Heard MJ, Wells, AC, Wiffen, RD; *Atmospheric Environment* (1970) **4**, 149–156.
- *Electrophoresis Demonstration on Apollo 16*, Snyder RS; *NASA Technical Memorandum* (1972) Report number NASA-TM-X-64724.
- *Size Distributions of Latex Particles*, Porstendörfer J and Heyder J, *Aerosol Science* (1972) **3**, 141–148.
- *Calibration of an Optical Self-Beating Spectrometer by Polystyrene Latex Spheres and Confirmation of the Stokes-Einstein Formula*, Lee SP, Tscharnutter W, Chu B; *J. Polymer Sci.: Polymer Phys. Ed.* (1972) **10**, 2453–2459.
- *Well-Characterized Monodisperse Latexes as Model Colloids*, Vanderhoff JW and van den Hul HJ; *J. Macromolecular Sci.: Part A –Chemistry* (1973) **A7(3)**, 677–707.
- *Rapid Coagulation of Polystyrene Latex in a Stopped-Flow Spectrophotometer*, Lichtenbelt JWTh, Pathmamanoharan, C, Wiersema PH; *J. Colloid Interface Sci.* (1974) **49**, 281–285.
- *Cleaning Latexes for Surface Characterization by Serum Replacement*, Ahmed SM, El-Aasser MS, Pauli GH, Poehlein GW, Vanderhoff JW; *J Colloid Interface Sci.* (1980) **73**, 388–405.
- *The Preparation and Surface Characterization of an Ideal Model Colloid*, Kamel AA, El-Aasser MS, Vanderhoff JW; *J. Dispersion Sci. Tech.* (1981) **2**, 183–214.
- *Separation of Submicrometer Particles by Capillary Hydrodynamic Fractionation (CHDF)*, Silebi CA, Dos Ramos JG; *J. Colloid Interface Sci.* (1989) **130**, 14–24.
- *Statistical Fitting Accuracy in Photon Correlation Spectroscopy*, Shaumeyer JN, Briggs ME, Gammon RW; *Applied Optics* (1993) **32**, 3871–3879.
- *Shape Changes in Escherichia coli B/r A During Agar Filtration*, Vardi E and Grover NB; *Cytometry* (1993) **14**, 173–178.
- *Electrokinetic Lift Effects Observed in the Transport of Submicrometer Particles through Microcapillary Tubes*, Hollingsworth AD and Silebi CA; *Langmuir* (1996) **12**, 613–623.
- *Study of the Consumption of TMI Latex Using Attenuated Total Reflectance FTIR (ATR – FTIR)*, Y. He Y, Daniels ES, Klein A, El-Aasser MS; *J. Applied Polymer Sci.* (1997) **65**, 1967–1973.
- *Dynamic Self-Assembly of Polymer Colloids to Form Linear Patterns*, Ray MA, Kim H, Jia L; *Langmuir* (2005) **21**, 4786–4789.