



PSL Spheres and polystyrene latex beads from 20nm to 900nm, NIST Traceable, Particle Size Standards

PSL Spheres, 1-160um | Silica Nanoparticles | PSL Spheres, SurfCal | PSL Spheres, NIST SRM | PSL Spheres, HEPA Test | OptiBind PSL Spheres | PSL Spheres, HEPA Check

PSL Spheres, 20-900nm, Polystyrene Latex particles - [Buy Now](#)

PSL Spheres, 1um-160um, Polystyrene Latex particles - [Buy Now](#)

PSL Spheres, Surfcal 47nm to 3um, Polystyrene Latex particles - [Buy Now](#)

Silica Nano-particles, 40nm to 2um, Spherical Silica Particles - [Buy Now](#)

PSL Spheres are excellent for use with any application that requires a NIST traceable size standard with a very narrow peak standard deviation. These PSL Size Standards are highly uniform polystyrene spheres calibrated within nanometers with NIST traceable methodology. One nanometer is 0.001 Åm or 10 Angstroms. SiO₂ Process particles in the 5nm and 10nm size range are ideal for the calibration of electron and atomic force microscopes. Polystyrene latex beads are used to produce PSL Wafer Standards to calibrate KLA-Tencor SP1, KLA-Tencor SP2, KLA-Tencor SP3, as well as Hitachi wafer inspection systems, SSIS. PSL Spheres are also used to create aerosol size standards for calibration of size response of laser particle counters and condensation particle counters. Size calibration or wafer inspection systems, also referred to as SSIS or Surface Scanning Inspection Systems is a major requirement in the semiconductor industry. polystyrene latex beads and PSL spheres are also used in laser light scattering studies and colloidal systems research. The 20 nm to 900 nm range of spheres is convenient to support clinical studies for checking the sizes of bacteria, viruses, ribosome and sub-cellular components.

PSL Spheres polystyrene latex beads can be ordered by calling Applied Physics at 720-635-3931.

Polystyrene latex beads and PSL spheres are available as uniform polymer spheres in a range of discrete sizes from 20 to 900 nanometers (nm), and also available from 1 micron to 160 microns. The spherical diameters are calibrated with linear dimensions transferred from NIST. Spheres are used instead of irregularly shaped particles to minimize the response of laser scanners which are sensitive to shaped particles. The standards are packaged as aqueous suspensions in 15 milliliter (mL) dropper-tipped bottles. The particle concentrations are optimized for ease of dispersion and colloidal stability. The spheres have a density of 1.05 g/cm³ and an index of refraction of 1.59 @ 589 nm, measured at 25 degrees centigrade.

Each bottle of PSL spheres contains a Certificate of Calibration and Traceability to NIST which includes a description of the calibration method and its uncertainty, and a table of chemical and physical properties. A Material Safety Data Sheet, MSDS is available with handling and disposal instructions. polystyrene latex beads are lot-numbered for convenient technical service and support after the sale. PSL Spheres and polystyrene latex beads can be ordered by calling Applied Physics at 720-635-3931.

PSL Spheres	20nm to 900 nm
Particle Composition	Polystyrene Latex (PSL Spheres)
Particle Density	1.05 g/cm ³
Index of Refraction	1.59 @ 589nm (25°C)
Bottle Size	15 mL
Expiration Date	≤ 24 months
Additives	Contains trace amounts of surfactant
Suggested Storage Temp.	2-8°C
Bottle Size and Volume	15ml (A) Bottle

[Request a Quote](#)

PSL Spheres, 20nm to 900nm, Polystyrene Latex Spheres: 60nm, 100nm and 269nm are useful for NIST Traceable, Calibration Sizes				
Product Part #	Nominal Diameter	Certified Mean Peak	Std. Dev & CV	Solids Concentration
AP3020A	20 nm	20 nm ± 2 nm	Not determined	1%
AP3030A	30 nm	30 nm ± 1 nm	Not determined	1%
AP3040A	40 nm	40 nm ± 1 nm	Not determined	1%
AP3050A	50 nm	46 nm ± 2 nm	7.3 nm (15.8%)	1%
AP3060A	60 nm	60 nm ± 4 nm	10.9 nm (19.1%)	1%
AP3070A	70 nm	70 nm ± 3 nm	7.3 nm (10.4%)	1%
AP3080A	80 nm	81 nm ± 3 nm	5.8 nm (7.2%)	1%
AP3090A	90 nm	92 nm ± 3 nm	7.0 nm (7.6%)	1%
AP3100A	100 nm	100 nm ± 3 nm	5.2 nm (5.1%)	1%
AP3125A	125 nm	125 nm ± 3 nm	4.5 nm (3.6%)	1%
AP3150A	150 nm	147 nm ± 3 nm	4.3 nm (2.9%)	1%

AP3200A	200 nm	203 nm \pm 5 nm	4.7 nm (2.3%)	1%
AP3220A	220 nm	216 nm \pm 4 nm	5.0 nm (2.3%)	1%
AP3240A	240 nm	240 nm \pm 5 nm	3.7 nm (1.5%)	1%
AP3269A	270 nm	269 nm \pm 5 nm	4.2 nm (1.6%)	1%
AP3300A	300 nm	296 nm \pm 6 nm	5.3 nm (1.8%)	1%
AP3350A	350 nm	350 nm \pm 6 nm	5.3 nm (1.8%)	1%
AP3400A	400 nm	400nm \pm 9 nm	5.0 nm (1.3%)	1%
AP3450A	450 nm	453 nm \pm 9 nm	5.0 nm (1.3%)	1%
AP3495A	500 nm	496 nm \pm 8 nm	8.6 nm (1.7%)	1%
AP3500A	500 nm	498 nm \pm 9 nm	7.9 nm (1.6%)	1%
APCD3560A	560 nm	565 nm \pm 9 nm	10.0 nm (1.8%)	1%
AP3600A	600 nm	600 nm \pm 9 nm	10.0 nm (1.6%)	1%
AP3700A	700 nm	702 nm \pm 6 nm	4.9 nm (0.7%)	1%
AP3800A	800 nm	799 nm \pm 9 nm	4.8 nm (0.6%)	1%
AP3900A	900 nm	903 nm \pm 12 nm	4.1 nm (0.5%)	1%