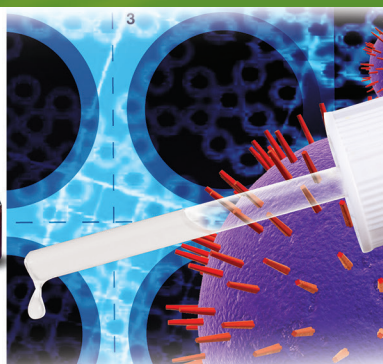


Agilent PL-Latex

# UNIFORM LATEX PARTICLES



## UNIFORM LATEX PARTICLES

### Unequalled Quality and Reproducibility.

Expertise in the manufacture and characterization of polymers enables us to manufacture a commercial range of polystyrene-based uniform latex particles; all with an unequalled level of quality and batch-to-batch reproducibility.

All of our particles are manufactured under the demanding ISO 9001:2000 Quality Management System for maximum customer confidence. We use the highest quality raw materials and process controls to ensure quality and reproducibility, essential for modern sophisticated assay systems.

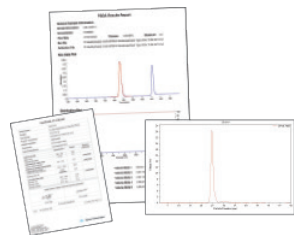
PL-Latex particles are used in a number of other applications where their uniformity of size, mobility, consistency of surface properties and versatility deliver advantages over other solid supports. The applications in which they are used include immunodiagnostic assays, and assays for medical syndrome and infection disease research.

### Contract Manufacturing with Confidence

We also undertake contract manufacturing for some of the world's largest diagnostic and pharmaceutical companies. Our particles, manufactured under our contract manufacturing service, have been used successfully in a variety of innovative clinical tests.

### Emphasis on Characterization

High quality characterization of particles is routine at Agilent. All of our products are extensively characterized using state-of-the-art analytical techniques: particle size and size uniformity (for sub-micron particles) where applicable, conductimetric titration, loading assays and color analysis to quantify surface chemistry and color intensity.



All products are quality tested for batch-to-batch reproducibility.

### Applications

PL-Latex particles have been a raw material component for many years in a variety of assays.

- Slide Agglutination
- Nephelometry
- Particle Capture
- Immunoturbidimetry
- Membrane Migration
- Particle Enhanced
- Microfluidics
- Cell Labeling

## Manufacturing Capabilities

Agilent is one of the world's largest producers of particles for bioseparations. Agilent is ISO 9001:2000 accredited, with 40 years' experience in bead manufacture and applications development. Agilent's technologies are widely used in chromatography, life science and pharmaceutical chemistries. We manufacture superior quality, reliable particles for bead-based assays, chromatography media, supports for peptide and oligonucleotide synthesis, and resins for high throughput chemistry. All Agilent's beads are manufactured under stringent quality controls to ensure batch-to-batch reproducibility of physical and chemical properties.

Agilent manufactures polymer microparticles with engineered structure and highly controlled surfaces with consistency between production runs. In response to client partners' needs, Agilent applies its abilities and technologies to make bead products directed towards specific applications. As a result, Agilent is a key OEM development partner and supplier of beads to major bioscience companies worldwide.

- Microparticles for Life Science & Bioscience
- Synthesis & Purification of Oligonucleotides & Peptides
- Analytical and Preparative Chromatography



LodeStars are manufactured in Agilent's ISO 9001 certified, state of the art facility, where high technology products have been developed for 40 years.

## CHOOSE YOUR OPTIONS TO ACHIEVE QUALITY CHARACTERIZATION

### **PL-Latex**

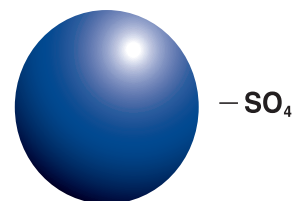
These sub-micron uniform latex particles are used in a wide range of applications that exploit their physico-chemical properties in sophisticated immunoassay formats. To meet this need, we manufacture particles with essentially uncharged surfaces for immobilization of biomolecules by adsorption, and surfaces having functional groups, allowing covalent immobilization of ligands. Intensely colored HiDye particles are ideal for membrane migration assays and cell labeling studies. For many years, PL-Latex particles have been a raw material component in a variety of assay formats in diagnostic tests. Particle sizes available in the range are 50 nm to 1000 nm.

### **High Colloidal Stability**

All PL-Latex products are produced by emulsion polymerization in the presence of proprietary surfactants. The high degree of colloidal stability imparted by the surfactants, even at low concentrations, removes the need for the high stabilizing surface charge required for many emulsifier-free latexes.

### PL-Latex Plain

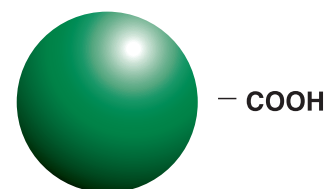
These nominally non-functionalized polystyrene particles are manufactured using persulfate-type polymerization initiators, providing a very low surface density of sulfate groups. They may be used in a variety of immunodiagnostic assays where physical adsorption is used to bind ligand to the surface of the particles. The high degree of hydrophobic bonding between the ligand and the particle surface results in an extremely strong bond, which is stable under all but the harshest of conditions.



PL-Latex Plain.

### PL-Latex Carboxyl

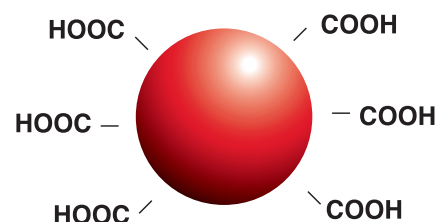
These carboxy-modified particles are manufactured by the co-polymerization of styrene and a carboxylic acid, providing a moderate surface density of carboxyl groups. They are also suitable for applications where covalent immobilization of ligands is necessary.



PL-Latex Carboxyl.

### PL-Latex SuperCarboxyl

These carboxy-modified particles are also manufactured by the co-polymerization of styrene and a carboxylic acid, providing a high surface density of carboxyl groups. They are suitable for applications where covalent immobilization of ligands is necessary, and the coupling is achieved using carbodiimide activation or other surface-modification chemistries.



PL-Latex SuperCarboxyl.

Choosing the most suitable particle for an application can be difficult – the following guide ought to help in most cases although this is by no means an exhaustive list. Please contact us for help with your application.

Application	Size	Comments
Slide Agglutination	200-1000 nm	• Smaller size may increase sensitivity but handling can be more difficult
Particle Capture	200-1000 nm	• Carboxy-modified particles may enhance conjugate stability
Particle Enhanced	200-1000 nm	• Colored particles may improve aesthetic appearance
Immunoturbidimetry	100-200 nm	• Carboxy-modified particles may enhance conjugate stability
Nephelometry	50-100 nm	
Membrane Migration	200-1000 nm	<ul style="list-style-type: none"> <li>• Smaller size may improve membrane flow characteristics</li> <li>• White particles suitable for use with dark or colored membrane</li> <li>• Carboxy-modified particles may enhance conjugate stability</li> </ul>

## HiDye Particles

PL-Latex particles are available in a range of colors (blue, red, yellow, green, purple), offering all the features of the white particles with the added advantage of intense color. As the dye is not surface bound, it does not interfere with the binding of ligand.



PL-Latex particles are available in a range of colors.

## Magnetic Beads

In addition to our PL-Latex particles, we also offer a range of magnetic beads, suitable for a wide variety of applications requiring a magnetically responsive species – LodeStars beads are high performance, superparamagnetic particles with excellent physical and chemical characteristics, designed for biomagnetic separations. Based on proprietary technology and a wealth of experience, LodeStars beads are a powerful magnetic platform for bioscience and life science applications. With a unique internal architecture and a hydrophilic outer polymer surface, they offer superior bead performance metrics compared to alternative beads and are a fast and efficient, reliable and affordable solution to many bioscience applications.



## Non-functionalized products:

PL-Latex Plain White	15 mL	100 mL	1 L
50 nm 10% Solids	PL6000-7101	PL6000-7102	PL6000-7103
100 nm 10% Solids	PL6001-4101	PL6001-4102	PL6001-4103
200 nm 10% Solids	PL6002-2101	PL6002-2102	PL6002-2103
300 nm 10% Solids	PL6003-2101	PL6003-2102	PL6003-2103
400 nm 10% Solids	PL6004-4101	PL6004-4102	PL6004-4103
600 nm 10% Solids	PL6006-4101	PL6006-4102	PL6006-4103
800 nm 10% Solids	PL6008-4101	PL6008-4102	PL6008-4103
1000 nm 10% Solids	PL6010-4101	PL6010-4102	PL6010-4103

## Carboxy-modified products:

PL-Latex Carboxyl White	15 mL	100 mL	1 L
100 nm 10% Solids	PL6101-6101	PL6101-6102	PL6101-6103
150 nm 10% Solids	PL6115-6101	PL6115-6102	PL6115-6103
300 nm 10% Solids	PL6103-6101	PL6103-6102	PL6103-6103
400 nm 10% Solids	PL6104-6101	PL6104-6102	PL6104-6103

PL-Latex SuperCarboxyl White	15 mL	100 mL	1 L
50 nm 10% Solids	PL6200-6101	PL6200-6102	PL6200-6103
100 nm 10% Solids	PL6201-6101	PL6201-6102	PL6201-6103
125 nm 10% Solids	PL6212-5101	PL6212-5102	PL6212-5103
150 nm 10% Solids	PL6215-6101	PL6215-6102	PL6215-6103
200 nm 10% Solids	PL6202-6101	PL6202-6102	PL6202-6103
300 nm 10% Solids	PL6203-6101	PL6203-6102	PL6203-6103
400 nm 10% Solids	PL6204-6101	PL6204-6102	PL6204-6103
600 nm 10% Solids	PL6206-6101	PL6206-6102	PL6206-6103
800 nm 10% Solids	PL6208-6101	PL6208-6102	PL6208-6103

PL-Latex Plain HiDye	15 mL	100 mL	1 L
Blue			
300 nm 10% Solids	available on request		
400 nm 10% Solids	available on request		
800 nm 10% Solids	available on request		
1000 nm 10% Solids	available on request		
Red			
200 nm 10% Solids	available on request		
300 nm 10% Solids	available on request		
400 nm 10% Solids	available on request		
800 nm 10% Solids	available on request		
Yellow			
600 nm 10% Solids	PL6006-4161	PL6006-4162	PL6006-4163

PL-Latex Carboxyl HiDye	15 mL	100 mL	1 L
<b>Blue</b>			
400 nm 10% Solids	PL6104-6121	PL6104-6122	-
<b>Red</b>			
400 nm 10% Solids	PL6104-6141	PL6104-6142	-

PL-Latex SuperCarboxyl HiDye	15 mL	100 mL	1 L
Blue			
200 nm 10% Solids	available on request		
300 nm 10% Solids	available on request		
400 nm 10% Solids	available on request		
800 nm 10% Solids	available on request		
Purple			
300 nm 10% Solids	available on request		
Red			
200 nm 10% Solids	available on request		
300 nm 10% Solids	available on request		
400 nm 10% Solids	available on request		
600 nm 10% Solids	available on request		
Green			
300 nm 10% Solids	available on request		

Learn more

**[www.agilent.com/chem/beads](http://www.agilent.com/chem/beads)**

Buy online

**[www.agilent.com/chem/store](http://www.agilent.com/chem/store)**

Find a local Agilent customer center  
in your country

**[www.agilent.com/chem/contactus](http://www.agilent.com/chem/contactus)**

USA and Canada

**1-800-227-9770**

**[agilent\\_inquiries@agilent.com](mailto:agilent_inquiries@agilent.com)**

Europe

**[info\\_agilent@agilent.com](mailto:info_agilent@agilent.com)**

Asia Pacific

**[inquiry\\_lsca@agilent.com](mailto:inquiry_lsca@agilent.com)**

For Research Use Only. Not for use in diagnostic procedures.  
This information is subject to change without notice.

© Agilent Technologies, Inc. 2016  
Printed in the US, November 15, 2016  
5991-1317EN



**Agilent Technologies**