Applied Microspheres

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NanoStandard™ Series
MicroStandard™ Series

meet the highest international metrological standards

provide accurate and traceable size calibration for particle size analysis

available in a wide size range from 20 nm to 220 µm

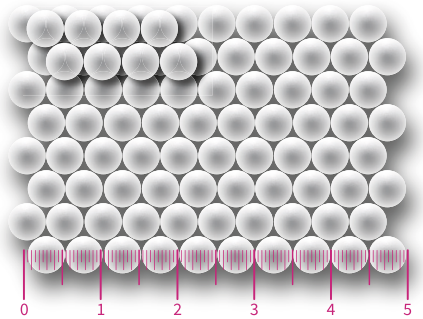
long shelf life at room temperature

Particle size standards in aqueous suspension, traceable to the International System of Units (SI)

The NanoStandard™ and MicroStandard™ product line from Applied Microspheres is a series of traceable particle size standards. Particle size standards are widely used in quality control laboratories in the pharmaceutical, semiconductor, biomedical and many other industries. They are used to calibrate particle sizing and counting instruments along with the performance of routine instrument checks and validations.

NanoStandards™ and MicroStandards™ meet the highest international metrological standards and therefore provide accurate and traceable size calibration for particle size analysis. They comply with demands of the National Institute of Standards and Technology (NIST) for traceability through an unbroken chain of measurements referring to NIST's Standard Reference Materials (SRMs). Furthermore, we claim general traceability to the standard meter of the international System of Units (SI), obtained through internal reference materials calibrated by a third party, an ISO/IEC accredited organization. The methods this laboratory applies are performed according to DS/EN ISO/IEC 17025. This allows laboratories to prove that their procedures, systems and measurements meet the norms as prescribed by international standardization organizations, such as ISO, GMP/GLP, ASTM, CEN.

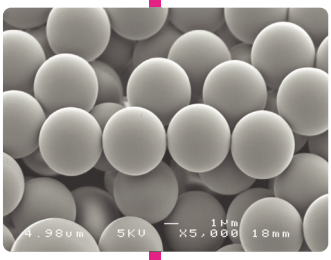
Using NanoStandards™ and MicroStandards™ also substantiates inter-laboratory standardization. Nano- and MicroStandard series particle size standards consist of a monodisperse polymer microspheres series. The diameters are calibrated using imaging technologies from Transmission Electronic Microscopy (TEM), Scanning Electronic Microscopy (SEM), and Optical Microscopy (OM). Applied Microspheres complete the certification of the particle diameter by applying a substantial number of validated orthogonal particle size analysis methods, such as Electrical Sensing Zone (ESZ), Single Particle Optical Sizing (SPOS), Analytical Differential Centrifugation (ADC), Laser Diffraction (LD), or Dynamic Light Scattering (DLS).

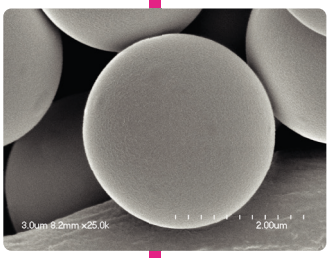


NanoStandards™ are available in diameters ranging from 20 nm - 990 nm. MicroStandards™ are obtainable in diameters from 1 µm - 220 µm. Larger diameters are delivered on request. They are suspended in aqueous medium with trace amounts of an antimicrobial agent and proprietary surfactant for optimal colloidal stability. To ease dispersion, they are packaged in 20 mL dropper tip bottles at a concentration of 1% (w/v) for the NanoStandard™ diameters and optimal concentrations for each diameter in the MicroStandards™ range. Each product has a certificate of traceability stating the certified mean diameter, the standard deviation, and the expanded uncertainty. The shelf life is 36 months based on the manufacturing date and the products can be stored at room temperature.

NanoStandards™

Part No	Nominal Diam.	Volume	Solids
10020-20	20 nm	20 mL	1 %
10050-20	50 nm	20 mL	1 %
10100-20	100 nm	20 mL	1 %
10150-20	150 nm	20 mL	1 %
10200-20	200 nm	20 mL	1 %
10250-20	250 nm	20 mL	1 %
10300-20	300 nm	20 mL	1 %
10350-20	350 nm	20 mL	1 %
10400-20	400 nm	20 mL	1 %
10500-20	500 nm	20 mL	1 %
10600-20	600 nm	20 mL	1 %
10700-20	700 nm	20 mL	1 %
10800-20	800 nm	20 mL	1 %
10900-20	900 nm	20 mL	1 %
10990-20	990 nm	20 mL	1 %





MicroStandards™

Part No	Nominal Diam.	Volume	Solids
11010-20	1 µm	20 mL	1 %
11015-20	1,5 µm	20 mL	1 %
11020-20	2 µm	20 mL	1 %
11025-20	2,5 µm	20 mL	1 %
11030-20	3 µm	20 mL	1 %
11040-20	4 µm	20 mL	1 %
11050-20	5 µm	20 mL	1 %
11060-20	6 µm	20 mL	1 %
11070-20	7 µm	20 mL	1 %
11080-20	8 µm	20 mL	1 %
11090-20	9 µm	20 mL	1 %
11100-20	10 µm	20 mL	2 %
11150-20	15 µm	20 mL	2 %
11200-20	20 µm	20 mL	2 %
11225-20	25 µm	20 mL	2 %
11300-20	30 µm	20 mL	2 %
11400-20	40 µm	20 mL	2 %
11500-20	50 µm	20 mL	2 %
11600-20	60 µm	20 mL	2 %
11700-20	70 µm	20 mL	2 %
11750-20	75 µm	20 mL	2 %
11800-20	80 µm	20 mL	2 %
11900-20	90 µm	20 mL	2 %
12010-20	100 µm	20 mL	3 %
12014-20	140 µm	20 mL	3 %
12022-20	220 µm	20 mL	3 %