

SOLE SOURCE JUSTIFICATION

PURCHASE AND SUPPLY OF IZON SCIENCE'S CALIBRATION PARTICLES (CPCs)



OVERVIEW

Charged calibration particles from Izon Science Limited (CPCs) are the only charged calibration particle standard certified using National Institute of Standards and Technology (NIST)-traceable standards in the world.

CPCs have several unique features that are necessary for nanoparticle research, development and quality assurance. CPCs are certified particles of a known size, concentration, and zeta potential. They serve as a built-in validation step for Tunable Resistive Pulse Sensing (TRPS) analysis and enable highly reproducible, calibrated measurements of size distribution and concentration for particles in a defined size band.

CPCs are available in sizes from ~100 nm to over 4000 nm in diameter, allowing them to be used to calibrate the full range of Izon's nanopores.

CPCs are certified using NIST-traceable polymer microspheres, which are traceable to the Standard Meter using either Photon Correlation Spectroscopy, Transmission Electron Microscopy, or Optical Microscopy.

SPECIFICATIONS

Mean Particle Size*

- ▶ CPC100: 100 nm
- ▶ CPC200: 200 nm
- ▶ CPC400: 350 nm
- ▶ CPC500: 500 nm
- ▶ CPC800: 720 nm
- ▶ CPC1000: 940 nm
- ▶ CPC2000: 1940 nm
- ▶ CPC4000: 4460 nm

*Exact values are determined batch-by-batch.

Particle concentration

- ▶ Particle concentration is determined for each batch, but usually lies within the range of 1.0×10^9 to 1.2×10^{13} particles/mL. Each individual particle vial is labelled with a certified concentration value.

Electrolyte

- ▶ A wide range of complex electrolyte solutions, such as PBS, HEPES, MES, KCl and serum can be used to dilute CPCs for use with Izon's TRPS instrumentation.

Volume

- ▶ 500 μ L of the concentrated stock solution is provided. This will be diluted at an appropriate volume as outlined in the TRPS instrument manuals prior to use. Usually no more than 5 μ L will be required at one time for calibration dilution preparation.

Storage Conditions

- ▶ Izon calibration particles should be stored at 4–8 °C. DO NOT FREEZE.

Expiry

- ▶ 30-month expiry from date of manufacture.

Shipment

- ▶ 0.5 mL screwcap vial, weight <2 g.