



MEASUREMENT OF MIXTURES OF PSL STANDARDS PARTICA LA-950

Mono-disperse polystyrene latex (PSL) standards are commonly used to verify accuracy and proper operation of laser diffraction particle size analyzers. It is common to test the instrument's resolution with a mixture of these standards. As these materials are somewhat different from normal materials, proper conditions and procedures are necessary to ensure proper results.

Analytical test method

Applicable instruments: LA-950 with aqueous pump or solvent-resistant pump

Dispersant fluid: deionized water

Sonication: none

Set the following conditions:

- Sample Information tab
 - Sample Information:
 - Sample Name: (nominal sizes of standards and concentrations)
 - Material: PSL standard
 - Source: (name of vendor)
 - Lot Number:
- Calculation tab
 - Refractive Index
 - File name: 1.59-0.00
 - Fixed value
 - Form of Distribution: Manual
 - Iteration Number: 1000
 - Graph
 - Distribution base: Volume
 - Density distribution graph: Standard
- Measurement tab
 - Data acquisition times (Sample)
 - LD: 5000
 - LED: 5000
 - Note: For all samples larger than 100 μ m, increase both sample acquisition times to 500,000
 - Data acquisition times (Blank)
 - LD: 5000
 - LED: 5000
 - Alignment before measurement: Yes
- System tab
 - Sample preparation
 - Circulation speed: 3
 - Agitation speed: 2
 - Agitation setting: Continuous



Analytical Test Method

Particle Size Distribution Analyzer

Partica LA-950

ATM106

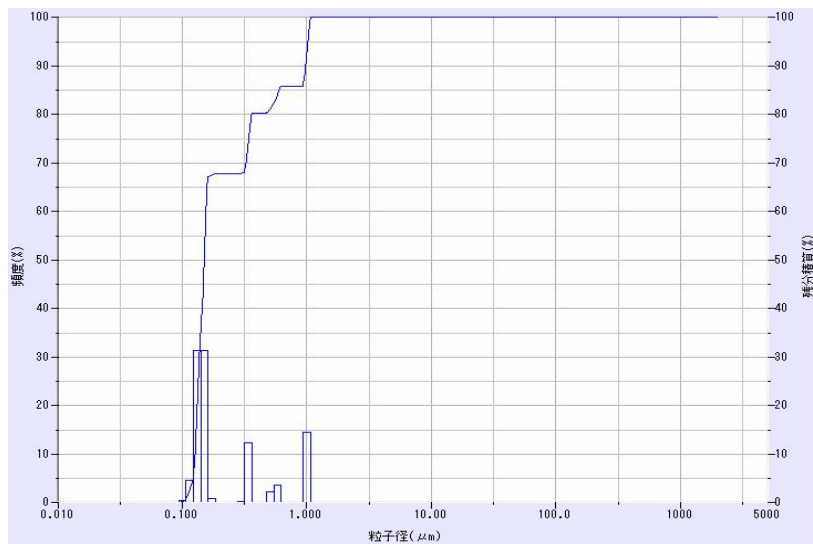
Mixed PSL

Procedure:

1. Fill circulation system with deionized water.
2. De-bubble.
3. Start circulation and agitation.
4. Wait 10 seconds.
5. Blank
6. Add sufficient sample to achieve proper concentration. Use enough of each component such that a proper result would be achieved if they were measured alone. For example, if 5 drops are needed to measure each standard, add 5 drops of each to the mixture, even if this results in a T% reading below the normal range.
7. Measure
8. Save data (or use AutoSave function)
9. Rinse twice with deionized water between samples.

Results

Verify that the individual peaks are reported. The accuracy of the individual components of a mixed PSL measurement are not guaranteed.



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