METHOD FOR TESTING PSL STANDARDS ON PARTICA LA-960

Mono-disperse polystyrene latex (PSL) standards are commonly used to verify accuracy and proper operation of laser diffraction particle size analyzers. As these materials are somewhat different from normal materials, proper conditions and procedures are necessary to ensure correct results. The following polystyrene latex, NIST-traceable standards are guaranteed to be within 5% plus the tolerance of the standard itself: 0.1, 1.0, and 100 μm.

Analytical test method
Applicable instruments: LA-960 AquaFlow, SolvoFlow, MiniFlow, and Fraction Cell
Dispersant fluid: de-ionized water
Sonication: none

Set the following conditions:

- **Basic Measurement Conditions**
  - **Sample Information:**
    - **Sample Name: XXX**
    - **Material: PSL**
    - **Source: XXX**
    - **Lot Number: XXXXX**
    - **Refractive Index : SINGLE-PSL**
      - **Note: Analyzer must be powered on and connected to computer with LA-960 software installed during initial PSL kernel creation.**
      - **Note: Always select SINGLE-PSL from Sample List during kernel creation.**
    - **Form of Distribution: Manual**
    - **Iteration Number: 1000**
    - **Distribution base: Volume**

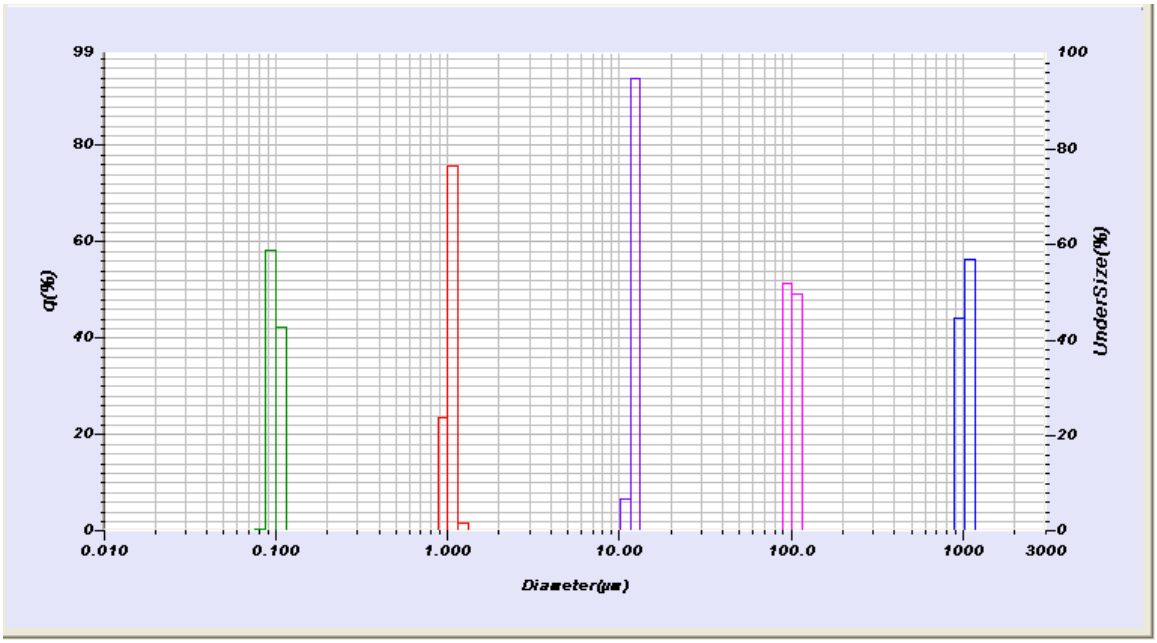
- **Advanced Measurement Conditions**
  - **Measurement tab**
    - **Data acquisition times (Sample) : 5000**
      - **Note: For all samples larger than 100μm, increase both sample acquisition to a value between 5,000 and 50,000. The chosen value will depend on the standard and dispersion method, as well as the choice of sample cell.**
    - **Data acquisition times (Blank) : 5000**
    - **Alignment before measurement: Yes**
  - **System : Preparation tab**
    - **Circulation Speed : 3**
    - **Agitation Speed : 1**

Procedure:

1. **Fill circulation system with de-ionized water.**
2. **Start Circulation and Agitation.**
3. **De-bubble.**
4. **Wait 10 seconds.**
5. **Align the laser and verify that the cell is clean by visually inspecting the Channel baseline.**
6. **Take the system Blank.**
7. **Add sufficient sample to achieve proper T%:**
    a. **100nm – below 95% on blue light source (peak may not show on active display)**
    b. **All others – below 95% on red light source**
8. **Record the Measurement.**
9. **Save data (or use AutoSave function).**
10. **Collect three measurements on separate samplings for each standard to verify reproducibility.**

Results

Verify that the Mean Diameter is within 5% of the published value for each test. The following polystyrene latex, NIST-traceable standards are guaranteed to be within 5% plus the tolerance of the standard itself: 0.1, 1.0 and 100 μm.



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