

REFERENCE MATERIALS CERTIFICATE

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Certificate No : HCTCRM-2022-0004

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1. Reference Materials Information

- Reference Materials Code : HCT-CRM-P0050
- Reference Materials Name : 50 nm Polystyrene Sphere Latex
- Certification Characteristics : Mean Diameter
- Lot Number : PSL_0050.006
- Bottle Type : Polystyrene Dropping Bottle
- Volume : 15 ml / 1 bottle
- Application : Particle counter calibration and performance test, moisture counter evaluation, other object tests

2. Certification Method

ISO 15900:2020 (Determination of Particle Size Distribution-Differential Electrical Mobility Analysis for Aerosol Particles)

3. Traceability

The above reference materials were measured using certified reference materials(CRM, No.111-21665) with traceability from METAS and the following measuring instruments with traceability from national standards organization

List of used standards/specifications

Description	Manufacturer / Model	Serial Number	Due date of Calibration	Calibration Lab
ELECTROSTATIC CLASSIFIER	TSI/3082	3082021612001	2023/07/21	NPL
LONG DIFFERENTIAL MOBILITY ANALYZER	TSI/3081A	3081A1606001	2023/07/21	NPL
CONDENSATION PARTICLE COUNTER	TSI/3772	3772162202	2023/05/12	HCT Co., Ltd.

4. Certification Result

Reference Materials Name	Certification Date	Expiration Date	Certified Diameter	Uncertainty
50 nm Polystyrene Sphere Latex	2022.12.12	2024.09.04	48.0 nm	4.4 nm

(approximate 95% confidence level, $k = 2$)

5. How to use : Refer to "Reference materials Information sheet" on page 2

Approved by

Title **Technical Manager**

Name **김 은 희**

(signature)

The above certificate is the result of the standard material certified by the Korea Accreditation Organization (KOLAS) by KS A ISO 17034.

2022. 12. 12

Accredited by KOLAS, Republic of KOREA

President, HCT Co., Ltd.



※ The original certificate is printed on forgery-resistant paper with the HCT hologram on the top, and is marked as a copy when copying the original.