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# Colloidal silica (bimodal) - Morphological properties

| | |
|---|---|
| Art. ID | ERM-FD102 |
| Unit | ampoule |
| Deliverydetails | No Dangerous Good /not restricted |

## Description

ERM-FD102 consists of a mixture of two monomodal populations of silica nanoparticles suspended in an aqueous solution. The two monomodal particie populations, which have distinct nominal particle sizes of 20 nm and 80 nm, are referred to as size class A and size class B, respectively. The material is available in 10 mL pre-scored glass ampoules containing approximately 9 mL of suspension.

| Text/Information | Analyte/Parameter | CAS number | Concentration/Value | Unit | Method | Source |
|---|---|---|---|---|---|---|
| Certified value - Size class A | Arithmetic mean diameter by DLS | | 17,8 ± 1,5 | nm | | |
| Certified value - Size class B | Arithmetic mean diameter by DLS | | 88,5 ± 2,2 | nm | | |
| Certified value - Size class A | Median diameter by SEM/TEM | | 18,3 ± 1,7 | nm | | |
| Certified value - Size class B | Median diameter by SEM/TEM | | 83,3 ± 2,3 | nm | | |
| Certified value - Size class A | Modal diameter by CLS | | 23,9 ± 2,0 | nm | | |
| Certified value - Size class B | Modal diameter by CLS | | 88 ± 7 | nm | | |
| Certified value - Size class A | Modal diameter by SEM/TEM | | 18,2 ± 1,6 | nm | | |
| Certified value - Size class B | Modal diameter by SEM/TEM | | 84,0 ± 2,1 | nm | | |
| Certified value | Effective particle density | | 2,0 ± 0,1 | g/cm3 | | |
| Indicative value - Size class A | Harmonic mean diameter by DLS | | 17 ± 4 | nm | | |
| Indicative value - Size class B | Harmonic mean diameter by DLS | | 84,8 ± 2,2 | nm | | |
| Indicative value - Size class A | Modal diameter by DLS | | 17,1 ± 2,4 | nm | | |
| Indicative value - Size class B | Modal diameter by DLS | | 84 ± 9 | nm | | |
| Indicative value - Size | Modal height by AFM | | 16,9 ± 1,8 | nm | | |

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| | | | |
|---|---|---|---|
| class A | | | |
| Indicative value - Size class B | Modal height by AFM | 80 ± 6 | nm |
| Indicative value - Size class A | Mass weighted moodal di ameter by | 18,0 ± 2,7 | nm |
| Indicative value - Size class B | Mass weighted moodal di ameter by | 88 ± 7 | nm |
| Indicative value - Size class B | Modal diameter by PTA | 78 ± 5 | nm |
| Indicative value - Size class B | Mean diameter by PTA | 82 ± 4 | nm |
| Indicative value - Size class B | Median diameter by PTA | 79,2 ± 2,2 | nm |