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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 44149-2024

**Fine ceramics - Measurement of iso-electric point of ceramic
powders - zeta potential method**

精细陶瓷 陶瓷粉体等电点的测定 zeta电位法

(English Translation)

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1 Scope

This document describes a test method for measuring the isoelectric point of fine ceramic powders in suspension.

This document is applicable to the determination of the isoelectric point of fine ceramic powders in dispersion.

2 Normative references

The contents of the following documents constitute the essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies.

in this document.

ISO 4316:1977 Surface active agents - Determining the pH of aqueous solutions by potentiometric method (Determination of pH of aqueous solutions-Potentiometric method) Note. GB/T 6368-2008 Determination of pH value of aqueous surfactant solutions - Potentiometric method (ISO 4316:1977, IDT) ISO 13099-1 Colloidal systems - Methods for determination of zeta potential - Part 1: Electroacoustic and electrokinetic phenomena for zeta-potential determination-Part 1: Electroacoustic and electrokinetic phenomena) Note. GB/T 32671.1-2016 Measurement of zeta potential of colloidal systems Part 1: Electroacoustic and electrokinetic phenomena (ISO 13099-1:2012, IDT) ISO 13099-2 Colloidal systems-Methods for measuring zeta potential Part 2: Optical method for zeta-potential determination-Part 2: Optical methods) Note. GB/T 32671.2-2019 Measurement method of zeta potential of colloidal systems Part 2: Optical method (ISO 13099-2:2012, IDT) ISO 13099-3 Colloidal systems-Methods for measuring zeta potential Part 3: Acoustic method for zeta-potential determination-Part 3: Acoustic methods)

3 Terms and definitions

For this document, the terms and definitions defined in ISO 13099-1, ISO 13099-2, ISO 13099-3 and the following apply.

zeta potential

zeta potential

The potential difference between the sliding surface and the main liquid, when the electric field acts on the dispersed particles in the solution, the potential difference and the electrophoretic migration of charged particles to the electrode the shift features are proportionally related.

Note 1: See Figure 1.

Note 2: Zeta potential is expressed in volts (V). Electrophoretic mobility μ is the electrophoretic velocity of the particle divided by the electric field strength.

If the surface of the substance moves, the electrophoretic mobility is positive, otherwise the electrophoretic mobility is negative. The unit of electrophoretic mobility is square meter per volt second ($\text{m}^2/\text{V}\cdot\text{s}$).