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

GB/T 32671.2-2019

**Colloidal systems -- Methods for zeta-potential determination --
Part 2: Optical methods**

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Foreword

Introduction

1 Scope

2 Normative references

3 terms, definitions and symbols

3.1 Terms and definitions

Foreword

GB/T 32671 "Method for measuring zeta potential of colloidal system" is divided into the following three parts.

--- Part 1. Electroacoustic and electric phenomena;

--- Part 2. Optical method;

--- Part 3. Acoustic method.

This part is the second part of GB/T 32671.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This section uses the translation method equivalent to ISO 13099-2:2012 "Colloidal system

zeta potential measurement method Part 2. Optical

law".

The documents of our country that have a consistent correspondence with the international documents referenced in this part are as follows.

--- GB/T 32671.1-2016 - Determination of zeta potential of colloidal systems - Part 1 .
electroacoustic and electro

(ISO 13099-1.2012, IDT);

---JJF1005-2016 Standard substance general terms and definitions (ISO Guide 30.2015,
MOD).

This part is proposed and managed by the National Technical Committee for Particle Characterization and Separation and Screen Standardization (SAC/TC168).

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Introduction

The zeta potential is used to characterize the long-term stability of suspensions and emulsions, to study the surface properties and absorption of particles and liquids in contact with the surface of the particles.

A parameter with performance. The zeta potential cannot be directly measured. It is an experimentally measured parameter such as electrophoretic mobility.

The theoretical model is calculated. Optical methods, especially electrophoretic light scattering, have been widely used to determine particles or macromolecules in suspensions or solutions.

Electrophoretic mobility. This section provides methods for measuring electrophoretic mobility and calculating zeta potential by optical methods.

Colloidal system zeta potential measurement method

Part 2. Optical method

1 Scope

This part of GB/T 32671 specifies two methods for measuring the electrophoretic mobility of suspended particles in liquid. microscopy and electricity.

The stroboscopic scattering method, the estimation of the surface charge of the particles and the determination of the zeta potential can be measured by electrophoretic mobility and using a suitable theoretical model.

Type calculation.

Note. See ISO 13099-1 for related theory.

2 Normative references

The following documents are indispensable for the application of this document. For dated references, only dated versions apply to this article.

Pieces. For undated references, the latest edition (including all amendments) applies to this document.

ISO 13099-1 - Determination of zeta potential of colloidal systems - Part 1 . Electroacoustic and electro

Methods for zeta-potential determination-Part 1. Electroacoustic and electrokinetic phenomena)

ISO Guide 30 Reference Material General Terms and Definitions
(Reference materials-Selected terms and definitions)

3.1 Terms and definitions

The following terms and definitions apply to this document.

3.1.1

Brownian Motion Brownian motion

Random motion of particles suspended in a liquid due to thermal motion of liquid medium molecules.

3.1.2

Doppler shift Doppler shift

The phenomenon in which the wavelength and frequency of the received signal change as the receiver moves relative to the source.

3.1.3

Surface potential electric surface potential

Ψ

The potential difference between the surface and bulk liquid.

Note. The unit is volt [special] (V).

3.1.4

Zeta potential zeta-potential

Electrokinetic potential

Potential potential

A potential difference formed between the slip surface and the bulk liquid.

Note. The unit is volt [special] (V).

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Colloidal system zeta potential measurement method

Part 2. Optical method

Coloidalsystems-Methodsforzeta-potentialdetermination-

Part 2. Opticalmethods

(ISO 13099-2:2012, IDT)

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