~~2024-04-02~~

ISO/PRF 13099-2:~~2025(en)~~

ISO/TC 24/SC 4

Secretariat: BSI

Date: 2025-05-22

Colloidal systems — Methods for zeta-potential determination —

Part 2: Optical methods

Systèmes colloïdaux — Méthodes de détermination du potentiel zêta —

Partie 2: Méthodes optiques

PROOF

ISO Copyright Office copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: + 41 22 749 01 11
Email: E-mail: copyright@iso.org
Website: www.iso.org

Published in Switzerland.

Contents

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

ISO draws attention to the possibility that the implementation of this document may involve the use of (a) patent(s). ISO takes no position concerning the evidence, validity or applicability of any claimed patent rights in respect thereof. As of the date of publication of this document, ISO had ~~not received~~not received notice of (a) patent(s) which may be required to implement this document. However, implementers are cautioned that this may not represent the latest information, which may be obtained from the patent database available at www.iso.org/patents. ISO shall not be held responsible for identifying any or all such patent rights.

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 24, *Particle characterization including sieving*, Subcommittee SC 4, *Particle characterization*.

This second edition cancels and replaces the first edition (ISO 13099-2:2012), which has been technically revised.

The main changes are as follows:

— ~~—~~addition of new terms and definitions;

— ~~—~~revision of Figure 3~~Figure 3,~~ illustrating instrument configuration;

— ~~—~~removal of section on cross-beam optics;

— ~~—~~revision of the description of phase analysis light scattering (PALS);

— ~~—~~addition of information on cell constant.

A list of all parts in the ISO 13099 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Zeta-potential is a parameter that can be used to predict the long-term stability of suspensions and emulsions and to study surface morphology and adsorption on particles and other surfaces in contact with a liquid. Zeta-potential is not a directly measurable parameter. It can be determined using appropriate theoretical models from experimentally determined parameters, such as electrophoretic mobility.

Optical methods, especially electrophoretic light scattering, have been widely used to determine electrophoretic mobility of particles or macromolecules in suspension or in solution. The purpose of this document is to provide methods for measuring electrophoretic mobility using optical means and for calculating zeta-potential.