
**Rubber and plastics — Polymer
dispersions and rubber latices —
Determination of pH**

*Caoutchouc et plastiques — Dispersions de polymères et latex de
caoutchouc — Détermination du pH*



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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 documents 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).

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For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 45, *Rubber and rubber products*, Subcommittee SC 3, *Raw materials (including latex) for use in the rubber industry*.

This fourth edition cancels and replaces the third edition (ISO 976:1996), which has been technically revised. It also incorporates the Amendment (ISO 976:1996/Amd.1:2006). The following are the main changes:

- the normative references were updated;
- in (subclause) [4.2](#), the contact details of a provider of combined electrodes were deleted;
- the precision data were updated.

Rubber and plastics — Polymer dispersions and rubber latices — Determination of pH

WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This International Standard does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This International Standard specifies a method for the determination of the pH of polymer dispersions and rubber latices (natural and synthetic) by means of a pH-meter equipped with a combined glass and silver reference electrode.

The method is also suitable for prevulcanized latex and compounds containing polymer dispersions or rubber latices, including adhesives.

NOTE The accuracy of the method decreases at pH values above 11.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 123, *Rubber latex — Sampling*

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Reagents

Use commercially available analytical-grade buffer solutions of known pH or, in the absence of commercial buffer solutions, prepare the solutions required (3.1, 3.2 and 3.3) using only reagents of recognized analytical grade and carbon dioxide-free distilled water or water of equivalent purity (grade 3 as defined in ISO 3696).

3.1 Buffer solution, of nominal pH 7.

Dissolve 3,40 g of potassium dihydrogen phosphate ($\text{KH}_2\text{P}_2\text{O}_7$) and 3,55 g of disodium hydrogen phosphate (Na_2HPO_4) in water and make up to 1 000 cm³ in a volumetric flask.

The pH of this solution is 6,87 at 23 °C.

Store the solution in a glass or polyethylene vessel, which is resistant to chemicals.

3.2 Buffer solution, of pH 4.

Dissolve 10,21 g of potassium hydrogen phthalate ($\text{KHC}_8\text{H}_4\text{O}_4$) in water and make up to 1 000 cm³ in a volumetric flask.

The pH of this solution is 4,00 at 23 °C.

Store the solution in a glass or polyethylene vessel, which is resistant to chemicals.