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

GB/T 8325-2026

Replacing GB/T 8325-1987

**Plastics - Polymer dispersions and rubber latices -
Determination of pH**

塑料 聚合物分散体和橡胶胶乳 pH值的测定
(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 8325-1987 "Determination of pH Value of Aqueous Dispersions of Polymers and Copolymers", and is consistent with GB/T 8325-Compared to 1987, aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) The scope of application of the standard has been changed (see Chapter 1, the introduction to the 1987 edition);
- b) Three methods for preparing buffer solutions have been added (see 4.1, Chapter 2 of the 1987 edition);
- c) A "reference electrolyte" has been added (see 4.2);
- d) pH meter requirements have been changed (see 5.1, 3.1 of the 1987 edition);
- e) The requirements for composite electrodes have been changed (see 5.2, 3.1 of the 1987 edition);
- f) Added "sampling" (see Chapter 6);
- g) The test temperature requirements have been changed (see 7.1, 5.3 of the 1987 edition);
- h) Added "Electrode Maintenance" (see 7.2);
- i) A detailed description of pH meter calibration has been added (see 7.3);
- j) The requirement for the number of parallel samples has been changed (see 7.4, 5.4 of

the 1987 edition);

k) The requirements for parallel determinations in "Representation of Results" have been changed (see Chapter 8, Chapter 6 of the 1987 edition);

l) "Precision" has been added (see Chapter 9).

This document is modified to adopt ISO 976:2013 "Determination of pH value of polymer dispersions and latexes in rubber and plastics".

This document has undergone the following structural adjustments compared to ISO 976:2013.

a) A "Terms and Definitions" section has been added (see Chapter 3), and the chapter numbering thereafter has been adjusted accordingly;

b) 4.1 corresponds to 3.1~3.3 in ISO 976:2013, and 4.2 corresponds to 3.4 in ISO 976:2013 (see 4.1, 4.2, ISO 976).

Chapter 3 (2013)

c) Sections 4.3 and 4.4 of ISO 976:2013 have been removed;

d) Sections 7.4.1, 7.4.2~7.4.4 have been added, corresponding to sections 6.4.1~6.4.3 in ISO 976:2013;

e) A new chapter, "Precision," has been added (see Chapter 9);

f) Chapter 10 corresponds to Chapter 8 in ISO 976:2013;

g) A.5 in Appendix A corresponds to A.4 in ISO 976:2013.

The technical differences between this document and ISO 976:2013, and the reasons therefor, are as follows.

a) Added normative reference GB/T 27501-2011; replaced ISO 3696 with normative reference GB/T 6682.

Adapting to my country's technological conditions (see 4.1);

b) Adjust the requirement for saturation of the reference electrolyte with silver chloride to note (see 4.2) to adapt to my country's technical conditions;

c) Some repetitive descriptions about composite electrodes have been removed (see 5.2) to facilitate operator use;

d) The terms "magnetic stirrer, magnetic balls and electrode holders" (see 4.3 and 4.4 in ISO 976:2013) have been removed from the "Instrumentation" section because these three...

This instrument is a standard piece of laboratory equipment;

e) ISO 123 has been replaced by GB/T 8290 (normative reference), and ISO 15528 has been replaced by GB/T 3186 (normative reference).

(See Chapter 6) to adapt to my country's technological conditions;

f) The recalibration requirements for continuous measurements have been changed (see 7.4.4) to suit my country's technical conditions;

g) Change the requirements for parallel sample determination to "result presentation" (see Chapter 8) to increase operability;

h) "Precision" (see Chapter 9) has been added to improve operability;

i) Added "Specify the sample preparation method or reference document" (see Chapter 10) to adapt to my country's technical conditions.

The following editorial changes have been made to this document.

a) To harmonize with existing standards, the standard title will be changed to "Determination of pH Value of Plastic Polymer Dispersions and Rubber Latex";

b) Note 2 has been added to the scope, including instructions for use of pH meters equipped with additional electrodes (see Chapter 1);

c) The note in 7.1 has been deleted (see 7.1);

d) Some common-sense content in section 7.3 has been removed;

e) ISO/T R9272 has been replaced with GB/T 14838 (referenced in this document), and the section "Interlaboratory determination of polymer dispersion samples" has been added.

"Determined results" and biases for reference (see Appendix A).

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Petroleum and Chemical Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Plastics Standardization (SAC/TC15).

1 Scope

This document describes the determination of polymer dispersions and rubber latexes (natural and synthetic) using a pH meter equipped with a glass and silver composite reference electrode.

Methods for determining pH value.

This document applies to pre-vulcanized latexes and compounds containing polymer dispersions or rubber latexes, including adhesives.

Note 1: The accuracy of this method will decrease when the pH value is greater than 11.

Note 2: pH meters equipped with other electrodes can also be used as long as the results obtained are the same as those obtained by the pH meters described above.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 3186 Sampling of raw materials for paints, varnishes and paints and varnishes (GB/T 3186-2006, ISO 15528:2000, IDT) GB/T 6682 Specifications and test methods for water used in analytical laboratories (GB/T 6682-2008, ISO 3696:1987, MOD) GB/T 8290 Latex Sampling (GB/T 8290-2021, ISO 123:2001, MOD) GB/T 27501-2011 Preparation of buffer solutions for pH determination

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4.1 Buffer solution

Use commercially available analytical grade buffer solutions with known pH values, or use recognized analytical grade reagents and distilled water or water that is free of carbon dioxide.

For Class III water conforming to GB/T 6682, prepare pH4, pH6 and pH9 buffer solutions respectively according to 5.3.2 of GB/T 27501-2011.

Note 1: At 25°C, the pH value of pH4 buffer solution is 4.003, the pH value of pH6 buffer solution is 6.864, and the pH value of pH9 buffer solution is...

9.182.

Note 2: Store the prepared buffer solution in a chemical-resistant glass or polyethylene container. Alkaline buffer solutions require a soda lime carbon dioxide trap.

The shelf life of the liquid is 1 month.

Note 3: Alkaline buffer solutions are unstable and will absorb carbon dioxide from the atmosphere. When using alkaline buffer solutions for calibration, using a pH B4 buffer solution is preferable.

Verify its accuracy.