

CCS G 40



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

GB/T 18012-2021

Rubber latex - Determination of pH

Issued on: October 11, 2021

Implemented on: May 1, 2022

**Issued by: State Administration for Market Regulation, China National
Standardization Administration**

Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Reagent	1
5 Instrument	1
6 Sampling	4
7 Test Step	4
7.1 General requirements	4
7.2 Electrode maintenance	4
7.3 Calibration of pH meter	4
7.4 Determination of the pH value of the sample	5
8 Results showing	5
9 Precision	5
10 Test report	5
Appendix A (informative) Precision	6
Reference	7

Foreword

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

Drafting.

This document replaces GB/T 18012-2008 "Determination of pH Value of Natural Rubber Latex", compared with GB/T 18012-2008, except for structural adjustment

In addition to the overall and editorial changes, the main technical changes are as follows.

- Changed the scope of application (see Chapter 1, Chapter 1 of the.2008 edition);
 - Added "Terms and Definitions" chapter (see Chapter 3);
 - Changed the guide language of the reagent and set the water requirement separately (see the guide language of Chapter 4, 4.1, Chapter 3 of the.2008 edition
- Introductory words);
- The regulations on buffer solutions have been changed (see 4.2, 3.1, 3.2 and 3.3 of

the.2008 edition);

--- Deleted the "magnet bar" in the "instrument" (see 4.3 in the.2008 edition);

---Set the guide word of the test step to one and change the note in it to a paragraph, and the number of the article is adjusted in order (see 7.1,.2008 edition

Introduction to Chapter 6);

--- The content on precision was revised to Appendix A and the precision data was updated (see Appendix A, Chapter 8 of the.2008 edition).

This document uses the redrafting method to amend and adopt ISO 976.2013 "The pH value of rubber and plastic polymer dispersions and rubber latex

Determination of "

Compared with ISO 976.2013, this document has structural adjustments. The specific adjustments are as follows.

--- Two chapters, "Terms and Definitions" and "Precision" have been added (see Chapter 3 and Chapter 9), and the number of subsequent chapters will be adjusted in order;

--- The "reagents" on the "water" provisions are set as a separate one and the three "buffer solutions" provisions are combined into one (see

Chapter 4, Chapter 3 of ISO 976.2013).

Compared with ISO 976.2013, this document has technical differences.

The vertical single line (|) is marked. The technical differences and their reasons are as follows.

---The scope of application of the document was changed, and only the content of rubber latex was retained to make the standardization object more clear (see Chapter 1, ISO 976.

Chapter 1 of.2013).

---Regarding normative reference documents, this document has made adjustments with technical differences to adapt to China's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", and the specific adjustments are as follows.

* Replace ISO 3696 (see 4.1) with GB/T 6682 which is modified and adopted international documents;

* Added GB/T 27501-2011 (see 4.2);

* Replace ISO 123 with GB/T 8290 which adopts international documents (see Chapter 6);

* ISO 15528 is deleted.

---Change the regulations on buffer solutions (see 4.2, 3.1, 3.2 and 3.3 of ISO 976.2013) to comply with direct reference

The provisions of GB/T 27501-2011.

--- Deleted the "magnetic bar" in the "instrument" (see 4.3 of ISO 976.2013), because the magnetic bar is a part of the magnetic stirrer.

--- Change the note of "General Requirements" in "Test Procedures" to paragraphs (see 7.1, ISO 976.2013, 6.1), because it contains permission

And recommended terms to comply with GB/T 1.1-2020.

--- The use of a magnetic stirrer and electrode holder has been added in the "test steps" to facilitate operation (see 7.3.5).

This document has also made the following editorial changes.

---Changed the file name;

--- Change ISO /T R9272 to GB/T 14838 (see A.1, References, ISO 976.2013 A.1, References), because

ISO /T R9272 is no longer suitable for use.

1 Scope

This document describes a method for measuring the pH of natural rubber latex and synthetic rubber latex using a pH meter equipped with a glass and silver composite reference electrode.

This document applies to natural rubber latex and synthetic rubber latex. This document also applies to pre-vulcanized latex and compounded latex.

Note. When the pH value is greater than 11, the accuracy of the operating method of this document will be reduced.

2 Normative references

The contents of the following documents constitute the indispensable clauses of this document through normative references in the text. Among them, dated quotations

Only the version corresponding to that date is applicable to this document; for undated reference documents, the latest version (including all amendments) is applicable to

This document.

GB/T 6682 Analytical laboratory water specifications and test methods (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 method of buffer solution for pH value determination

3 Terms and definitions

There are no terms and definitions that need to be defined in this document.

4 Reagents

Use only confirmed analytical reagents.

4.1 Water

GB/T 6682, level three, no carbon dioxide.

4.2 Buffer solution

Use commercial buffer solutions that comply with the pH code of pHB4, pHB6 and pHB9 in Table 1 of GB/T 27501-2011 or have no commercial

When characterizing the buffer solution, prepare according to 5.3.2c), 5.3.2d) and 5.3.2e) in GB/T 27501-2011 respectively.

Note. At 25°C, the pH value of the pHB4 buffer solution is 4.003, the pH value of the pHB6 buffer solution is 6.864, and the pH value of the pHB9 buffer solution is 9.182.

4.3 Reference electrolyte

3mol/L potassium chloride solution saturated with silver chloride.

5 Instruments

Conventional laboratory instruments and the following instruments.