ICS 83.040.10
CCS B 72

NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 8297-2023

Replacing GB/T 8297-2017

Natural rubber latex concentrate - Determination of KOH number

Issued on: September 7, 2023 **Implemented on: April 1, 2024**

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

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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 replaces GB/T 8297-2017 "Determination of potassium hydroxide (KOH) value of concentrated natural rubber latex". With GB/T 8297-

Compared with.2017, in addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Added normative reference document GB/T 601 (see 4.1, 4.2);

b) Added CAS number of reagents (see Chapter 4);

c) Change the requirements for the removal of carbon dioxide from formaldehyde solutions or distilled water to paragraph (see 4.3, 4.4 of the.2017 version);

d) Added calculation of water used to dilute latex (see Chapter 7);

e) Added normative reference document GB/T 8170 (see Chapter 8);

f) Added requirements for the interpretation of constants in formulas and test results (see Chapter 8).

This document has been modified to adopt ISO 127.2018 "Determination of potassium hydroxide (KOH) value of concentrated natural rubber latex".

The technical differences between this document and ISO 127.2018 and their reasons are as follows.

---Added normative reference document GB/T 601 (see 4.1, 4.2) to ensure the standardization of reagent preparation;

--- Added requirements for the removal of carbon dioxide from formaldehyde solutions or distilled water (see 4.3) to ensure that the test results are not oxidized by carbon dioxide

carbon interference;

---Replaced ISO 976 (see 5.1) with GB/T 18012 to adapt to my country's requirements for pH measurement of concentrated natural rubber latex;

---Replaced ISO 123 (see Chapter 6) with GB/T 8290 to adapt to my country's requirements for concentrated natural rubber latex sampling;

---Replaced ISO 1802 (see Chapter 7) with GB/T 8294 to adapt to my country's determination of boric acid content in concentrated natural latex

Require;

---Replaced ISO 124 (see Chapter 7) with GB/T 8298 to adapt to my country's determination of total solid content of concentrated natural latex

Require;

---Replaced ISO 125 (see Chapter 7) with GB/T 8300 to adapt to my country's requirements for the alkalinity determination of concentrated natural rubber latex;

---Changed the description of the titration method when the initial pH is 10.3 or higher (see Chapter 7) to make the titration operation more clear,

specification;

---Added normative reference document GB/T 8170 (see Chapter 8) to clarify the rounding rules for measurement results;

---Change "The difference between duplicate determination results should not be greater than 5% (by mass)" to "The absolute difference between duplicate determination results should not be greater than

5% of the arithmetic mean (by mass)" and adjusted to Chapter 8 (see Chapter 8) to facilitate the detection of differences in duplicate determination results.

calculate;

--- Added "The test results are expressed as the average of duplicate parallel measurement results, rounded to two decimal places in accordance with GB/T 8170"

(see Chapter 8) to facilitate the use of this document.

The following editorial changes have been made to this document.

---Changed the English name of the file to use standardized terminology;

---Changed the source of the term "KOH value" (see 3.1), because ISO 1382.2020 is the current version;

---Added the CAS number of the reagent (see Chapter 4);

---Changed the expression of formula (2) (see Chapter 7) to facilitate the calculation of latex dilution water;

---Change the titration method for samples with different initial pH from column items to paragraphs (see Chapter 7);

---Added description of the constants in the formula (see Chapter 7, Chapter 8, A.4) to facilitate understanding of the formula;

---In "Determination of Formaldehyde", "The test results are expressed as the average of duplicate determination results, revised in accordance with GB/T 8170"

Approximately to two decimal places" (see Appendix A) to facilitate the use of this document;

---Changed the precision description and updated the precision data (see Appendix C) to comply with the requirements for test method precision;

---Change ISO /T R9272 to ISO.19983.2022 (see Appendix C, References) because ISO /T R9272 has been abolished.

Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents.

1 Scope

This document describes a method for the determination of the potassium hydroxide (KOH) value of concentrated natural rubber latex, wholly or partially preserved with ammonia.

This document applies to latex containing boric acid.

This document does not apply to latex preserved with potassium hydroxide.

This document does not necessarily apply to natural latex from sources other than Hevea brasiliensis, nor does it necessarily apply to synthetic latex or compound rubber.

latex, vulcanized latex and aqueous rubber dispersions.

2 Normative reference documents

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

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

this document.

GB/T 601 Preparation of chemical reagent standard titration solution

GB/T 8170 Numerical rounding rules and representation and determination of limit values

GB/T 8290 Latex Sampling (GB/T 8290-2021, ISO 123.2001, MOD)

GB/T 8294 Determination of boric acid content in concentrated natural rubber latex (GB/T 8294-2008, ISO 1802.1992, IDT)

GB/T 8298 Determination of total solid content of latex (GB/T 8298-2017, ISO 124.2014, MOD)

GB/T 8300 Determination of alkalinity of concentrated natural rubber latex (GB/T 8300-2016, ISO 125.2011, IDT)

GB/T 18012 Determination of pH value of latex (GB/T 18012-2021, ISO 976.2013, MOD)

3 Terms and definitions

The following terms and definitions apply to this document.

3.1

KOH valueKOHnumber

< Latex>The total solids is the number of grams of potassium hydroxide (KOH) equivalent to the acid radicals combined with ammonia in 100g of latex.

[Source. ISO 1382.2020,3.269]

4 reagents

Use only reagents of confirmed analytical grade and carbon dioxide-free distilled or water of equivalent purity.

4.1 Potassium hydroxide (CAS number. 1310-58-3), standard titration solution, c(KOH)=0.1mol/L, does not contain carbonate, according to GB/T 601