

ICS 83.040.10

CCS B 72



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

GB/T 8300-2025

Replacing GB/T 8300-2016

Natural rubber latex concentrate - Determination of alkalinity

浓缩天然胶乳 碱度的测定

(English Translation)

Issued on: April 25, 2025

Implemented on: November 1, 2025

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

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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 for standardization documents" Drafting.

This document replaces GB/T 8300-2016 "Determination of alkalinity of concentrated natural rubber latex". Compared with GB/T 8300-2016, except for the structure in addition to adjustments and editorial changes, the main technical changes are as follows.

- a) Added the scope of application of the document (see Chapter 1);
- b) The requirements for the calibration of hydrochloric acid standard titration solution have been changed, and the normative reference document GB/T 601 has been added as the standard titration solution for sulfuric acid.

Standardization method of titration solution and hydrochloric acid standard titration solution (see 5.2, 4.3 of the 2016 edition);

- c) Sodium carbonate solution (see 4.5 of the 2016 edition) and methyl orange solution (see 4.6 of the 2016 edition) were deleted;

- d) Add 0.05 mol/L sulfuric acid standard titration solution as an optional standard solution

for colorimetric titration (see 8.3);

e) The calculation formula for alkalinity has been changed, and the explanation of the coefficients in the formula has been added (see 9.2, 9.3, and 8.2, 8.3 of the 2016 edition).

This document is modified to adopt ISO 125:2020 "Determination of alkalinity of concentrated natural rubber latex".

This document has the following structural adjustments compared to ISO 125:2020.

--- Deleted 5.2.1, 5.2.2, 5.4 and 5.5 of ISO 125:2020.

The technical differences between this document and ISO 125:2020 and their reasons are as follows.

--- The calibration of sulfuric acid standard titration solution and hydrochloric acid standard titration solution has been changed to be carried out according to GB/T 601 (see 5.2) to adapt to our the country's regulations on the calibration of standard solutions;

--- ISO 976 (see 6.2) is replaced by the normative reference GB/T 18012 to adapt to the provisions of my country on pH meters;

--- ISO 123 (see Chapter 7) has been replaced by the normative reference GB/T 8290 to adapt to the provisions of my country on latex sampling;

--- Added normative reference document GB/T 8170 (see 9.2, 9.3) to standardize the rounding rules of numerical values;

--- Changed the calculation formula of alkalinity and added explanations of the coefficients in the formula (see 9.2, 9.3) to comply with GB/T 20001.4-Regulations of 2015.

The following editorial changes were made to this document.

--- Added CAS number of reagents (see Chapter 5);

--- Deleted the introductory words of Chapter 6 (see Chapter 6 of ISO 125:2020);

--- According to the results of the reorganized interlaboratory test, the precision data were changed (see Appendix A).

1 Scope

This document describes a method for the determination of the alkalinity of concentrated natural rubber latex.

This document applies to concentrated natural rubber latex derived from the *Hevea brasiliensis* tree.

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

vulcanized latex and emulsified latex.

NOTE: ISO 13773 describes the method for determining the alkalinity of chloroprene rubber latex.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document.

For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to this document.

GB/T 601 Preparation of standard titration solutions for chemical reagents GB/T 8170 Rules for rounding off values and expression and determination of limit values GB/T 8290 Latex Sampling (GB/T 8290-2021, ISO 123:2001, MOD) GB/T 18012 Determination of pH value of latex (GB/T 18012-2021, ISO 976:2013, MOD)

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

In the presence of a stabilizer to prevent the latex from coagulating, the concentrated natural latex is titrated potentiometrically or with methyl red as a visual indicator.

The acid was titrated to pH 6. The alkalinity of the latex was calculated from the amount of acid consumed.

5 Reagents

Use only confirmed analytical grade reagents and distilled water or water of equivalent purity.

5.1

Stabilizer solution, 5% by mass of alkylphenol polyoxyethylene condensate non-ionic stabilizer solution.

The pH was adjusted to 6.00 ± 0.05 .

5.2

Sulfuric acid (CAS7664-93-9) standard titration solution, $c(\text{H}_2\text{SO}_4) = 0.05 \text{ mol/L}$, or hydrochloric acid (CAS7647-01-0) standard titration solution the solution was fixed, $c(\text{HCl}) = 0.1 \text{ mol/L}$, and was calibrated according to GB/T 601.

5.3

Methyl red (CAS 493-52-7), 0.1% solution in ethanol (CAS 64-17-5), the purity of the ethanol being at least 95% (volume fraction).