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

GB/T 8294-2008

Replacing GB/T 8294-2001

**Natural rubber latex concentrate -- Determination of boric acid
content**

浓缩天然胶乳 硼酸含量的测定

(English Translation)

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Foreword

This standard is identical with ISO 1802:1992 "Natural rubber latex concentrate - Determination of boric acid content" (in English).

For ease of use, the editorial changes made the following standard.

--- "This International Standard" be replaced by "this standard";

--- Delete foreword international standards;

--- References GB/T 8290 sampling in Chapter 6, which is standard with ISO 1802:1992 is no technical difference in the respective sections.

This standard replaces GB/T 8294-2001 "Natural rubber latex concentrate - Determination of boric acid content." it was compared to the 2001 edition of this standard and editorial changes.

The standard proposed by China Petroleum and Chemical Industry Association.

This standard by the National Standardization Technical Committee rubber natural rubber and rubber Technical Committee.

This standard was drafted. Chinese Academy of Tropical Agriculture Institute of Agro-band, the Ministry of Agriculture Food Quality Supervision and Testing Center (Zhanjiang).

1 Scope

This standard specifies the method for determination of concentrated natural latex boric acid content.

This standard applies to the Brazilian rubber tree latex production concentrated natural rubber latex.

2 Normative references

The following documents contain provisions which, through reference in this standard and become the standard terms. For dated references, subsequent Amendments (not including errata content) or revisions do not apply to this standard. However, according to research encourages the parties to the agreement Study whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

GB/T 8290 Natural rubber latex concentrate sampling (GB/T 8290-1987, eqv ISO 123. 1985) Principle 3 Containing boric acid pH is adjusted to approximately 0.02g sample of latex 7.50, then boric acid is substantially non-dissociated state. Then added over the amount of mannitol to form a strongly acidic acid - mannitol complex, thus releasing the equivalent of boric acid in the latex amount of hydrogen ions, the pH value decline. Alkali the pH of the sample return to 7.50, based on the amount of base added boric acid content can be measured.

4 Reagents

This standard uses only recognized analytical reagent, distilled water or water of equivalent purity.

4.1

hydrochloride, mass fraction of 2% solution.

4.2

stabilizer solution, containing a mass fraction of 5% of the ethylene oxide condensate type nonionic stabilizing agent.

4.3

mannitol.

4.4 Boric acid solution

Weigh about 5g of boric acid (H_3BO_3), accurate to 1mg, dissolved in water and diluted to 1000mL in a volumetric flask.

4.5 standard solution of sodium hydroxide, Ba ($NaOH$) $\sim 0.05\text{mol/L}$.

Calibration solution 4.5.1 Draw 5mL boric acid solution (4.4) with a pipette (5.2) into a 250mL beaker, stabilizer was added 2mL (4.2) and 50mL water. The solution is measured using a pH meter (5.1) the pH, such as pH value of more than 5.5, the edge constantly stirring, hydrochloric acid was added dropwise a solution of (4.1), the pH is reduced to 5.5 to 2.5 range. The solution was allowed to stand 15min, with constant stirring, a burette (5.3) was added sodium hydroxide Solution (4.5) until pH reaches 7.50. Was added and then

continued stirring 4g mannitol (4.3), pH value then decreased. From then titrated Tube (5.3) accurately titrated with sodium hydroxide solution, the pH returned to record volume of 7.50 required for sodium hydroxide solution.

4.5.2 Calculation of concentration

Sodium hydroxide solution calculated by the formula (1) the concentration of Ba, expressed in moles per liter.

$Ba = 0.081 \times m1 \times Vp\ 1$ (1) where.

M1 --- 1000mL boric acid solution (4.4) in boric acid mass in grams (g);

Vp 1 --- the pH to return to the desired volume of sodium hydroxide solution 7.50 milliliters (mL).

GB/T 8294-2008/ISO 1802:1992