

ICS 83.060
CCS G 40

SN

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

SN/T 0541.5-2009

**Inspecting method of import and export standard
rubber-Determination of nitrogen content**

进出口标准橡胶检验方法 氮含量的测定

(English Translation)

Issued on: February 20, 2009

Implemented on: September 1, 2009

Issued by: General Administration of Customs

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Foreword

The reference standard ISO 1656:1996 "Natural rubber latex and natural rubber --- Determination of nitrogen," this standard and ISO 1656:1996 the main technical content differences are as follows.

--- Remove the constant method and the use of sulfuric acid as absorbent semi-micro method;

--- The preparation of boric acid by absorbing solution of boric acid was dissolved in 1L of water to 40g 20g of boric acid was dissolved in 1L of water;

--- The sample consisted of 0.1g ~ 0.2g to 0.1g;

The nitrogen content is calculated by acid-base titration calculation formula --- measurement results statements.

This standard is proposed and managed by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China Shanghai Entry-Exit Inspection and Quarantine Bureau.

1 Scope

This standard specifies the semi-micro Kjeldahl method Determination of nitrogen content in the standard rubber method.

This standard applies to the import and export standard rubber - Determination of nitrogen content, but also for other natural rubber measurement of nitrogen content.

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, encourage the parties to the agreement are based on research Whether the latest versions of these documents. For undated reference documents, the latest versions apply to this standard.

Preparation of GB/T 601 chemical reagent standard titration solution GB/T 603 chemical reagent in test methods - Preparations with Specifications and test methods for laboratory water GB/T 6682 Analysis SN/T 0541.1-1996 and export standard rubber test methods for sampling and sample preparation

3 PRINCIPLE OF THE METHOD

A known mass of the rubber sample is placed in a semi-micro Kjeldahl digestion flask, anhydrous potassium sulfate, copper sulfate pentahydrate and selenium powder mixture consisting of Co-catalyst, with concentrated sulfuric acid digestion under mild heating conditions, the nitrogen component of proteins and other nitrogen-containing compound rubber samples conversion Into ammonium bisulfate. The digest is transferred to semi-micro Kjeldahl distillation apparatus, add sodium hydroxide solution is alkaline, ammonium hydroxide is converted to Ammonium, steam distillation ammonia evaporated, solution of boric acid to absorb ammonia, and then sulfuric acid standard titration solution of weak acid weak base salt of ammonia acid Neutralization titration, calculate the nitrogen content.

4 Reagents

Unless otherwise specified in this standard, the reagents used were of analytical grade, the use of standard titration solution preparation should be GB/T 601, and used Formulations and products should be GB/T 603 provisions of preparation, laboratory water should comply with GB/T 6682 in the three water specifications.

4.1

sodium hydroxide.

4.2

boric acid.

4.3

selenium powder.

4.4

anhydrous potassium sulfate.

4.5

copper sulfate pentahydrate.

4.6

Methyl Red.

4.7

methylene blue.

4.8

sulfate ($\rho = 1.84\text{g/mL}$).

4.9

Ethanol (95%).

4.10

Sodium hydroxide solution (40%).

Weigh 400g of solid sodium hydroxide (4.1) dissolved in 600mL of water.

4.11

boric acid solution (20g/L).

Weigh about 20g of boric acid (4.2) was dissolved in 1L of water.