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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3520-2013

Determination of mercury in rubber and rubber products. Atomic fluorescence spectrometric method

橡胶及其制品中汞含量的测定 原子荧光光谱法

(English Translation)

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Preview: page 1 of 3 shown, 6 in the full document. Complete English PDF, instant download:
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Table of Contents

Foreword

1 Scope

2 Normative references

3 Method summary

4 Reagents

Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard by the National Certification and Accreditation Administration Committee.

This standard was drafted. People's Republic of China Guangdong Entry-Exit Inspection and Quarantine Huizhou People's Republic of China Bureau, Guangzhou Institute of Rubber Industry products.

1 Scope

This standard specifies the method for determining natural latex, raw rubber, compounds and vulcanized rubber products and mercury content by atomic fluorescence spectrometry.

This standard applies to natural rubber latex, determination of raw rubber, compounds and vulcanized rubber products and mercury in measuring range 0.1mg/kg ~ 1000mg/kg.

2 Normative references

The following documents for the application of this document is essential. For dated references, only the dated version suitable for use herein Member. For undated references, the latest edition (including any amendments) applies to this document.

Preparation of standard solution of GB/T 602 Determination of impurities in chemical reagents GB/T 6379.2 measurement methods and results of Accuracy (trueness and precision) - Part 2. Determine the standard measurement method to repeat of the basic methods of reproduction Laboratory use specifications and test methods GB/T 6682-2008 Analysis GB/T 15340 natural, synthetic rubber raw sampling and sample preparation method

Preview: page 2 of 3 shown, 6 in the full document. Complete English PDF, instant download:
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3 Method summary

Sample addition of nitric acid, hydrogen peroxide mixed reagent microwave digestion solution was diluted after digestion with hydrochloric acid, potassium borohydride was added to make it Reduced to atomic mercury, by the carrier gas into the atomizer directly by atomic fluorescence spectrometer detection. Determining mercury element according to external standard curve Pigment content.

4 Reagents

Unless otherwise specified, use only pure reagents superior grade and in line with a water GB/T 6682-2008 requirements.

4.1
nitric acid (rho = 1.42g/mL).

4.2
Hydrogen peroxide (rho = 1.10g/mL).

4.3
nitric acid solution (19).

4.4
hydrochloric acid solution (119).

4.5
mercury standard solution (1000μg/mL). according to GB/T 602 formulated or direct purchase of certified reference materials.

4.6
mercury standard solution (10μg/mL). draw 1.0mL mercury standard solution (4.5) in 100mL flask, with nitric acid (4.3) dilute Diluted to volume, and mix. This solution 1mL containing mercury 10μg.

4.7
mercury standard solution (0.1μg/mL). draw 1.0mL mercury standard solution (4.6) in 100mL flask, with nitric acid (4.3) dilute Diluted to volume, and mix. This solution 1mL containing mercury 0.1μg.

4.8
Mercury series of standard solution. Pipette mercury standard stock solution (4.7) 0mL, 2.0mL, 4.0mL, 8.0mL, 10.0mL, with hydrochloric acid (4.4) and dilute to 100mL, and mix. Having a concentration of 0μg/L, 2μg/L, 4μg/L, 8μg/L, 10μg/L mercury standard series

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