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INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3299-2012

Determination of short-chain chlorinated paraffins in synthetic rubber. Gas chromatography method with electron capture detector

合成橡胶中短链氯化石蜡含量的测定 气相色谱-电子捕获检测器法

(English Translation)

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Foreword

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

Please note that some of the content of this document may involve patents. Distribution of this document Institutions do not assume the responsibility to identify these patents.

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

This standard was drafted. People's Republic of China Ningbo Exit Inspection and Quarantine.

1 Scope

This standard specifies the synthetic rubber SCCPs (C10-C13) by Gas Chromatography.

This standard is suitable for the determination of synthetic rubber SCCP (C10-C13) content in.

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.

Laboratory use specifications and test methods GB/T 6682 Analysis

3 Method summary

Samples by ultrasonic extraction of copper was added to remove the interference of sulfur compounds, the extract was subjected to silica gel solid phase extraction (SPE) and concentrated to volume with with electron capture detector of gas chromatograph determination, external standard.

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4 Reagents and materials

Unless otherwise specified, the reagents were of analytical grade water to comply with two water GB/T 6682 regulations.

4.1
n-hexane, chromatography.

4.2
Acetone, chromatography.

4.3
methylene chloride, chromatography.

4.4
nitric acid (rho = 1.42g/mL).

4.5
of concentrated sulfuric acid (rho = 1.84g/mL).

4.6
extraction solvent, acetone, hexane (11), mixed with an equal volume of n-hexane and acetone.

4.7
elution solvent, n-hexane in dichloromethane (11), mixed with an equal volume of hexane and methylene chloride.

4.8
nitric acid solution (11), mixed with an equal volume of nitric acid and water.

4.9
copper powder, prior to use a few drops of nitric acid solution (4.8) activation.

4.10
anhydrous sodium sulfate, 650 °C ± 5 °C burning after 4h, cooling, backup in the dryer.

4.11
silica gel solid phase extraction column, 500mg, 3mL.

4.12
nitrogen purity >=99.999%.

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4.13

short-chain chlorinated paraffins (C10-C13) standard, 100μg/mL, respectively chlorine content of 51.5%, 55.5%, 63.0%, as the company Dr the product.

4.14

SCCP standard working solutions, dilute short-chain chlorinated paraffins (C10-C13) standard (4.13) with n-hexane to give 5μg/mL, 10μg/mL, 50μg/mL, 100μg/mL standard solution series.

Note: Due to different SCCPs standard chlorine content, retention time difference, select the sample SCCP retention time of the closest short-chained chlorinated Paraffin quantitative calibration standards.

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