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SN

INDUSTRY STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

SN/T 3792-2014

Determination of the azo colorants in electrical and electronic products. High performance liquid chromatography-mass spectrometry method

电子电气产品中偶氮染料的测定 液相色谱-质谱法

(English Translation)

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Foreword

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

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

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

1 Scope

This standard specifies the electrical and electronic products can be cleaved azo dyes aromatic primary amine liquid chromatography - mass spectrometry.

This standard applies to electrical and electronic components in the determination of azo dyes in plastic.

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

After sonication the sample an organic solvent with methanol to precipitate the polymer matrix, after reduction with sodium dithionite, extraction with methyl t-butyl ether, the extract After concentration and purification, liquid chromatography - mass spectrometry (LC-MS) and validation, external standard.

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4 Reagents and materials

Unless otherwise indicated, the reagents used were of analytical grade. Water is in line with GB/T 6682 provided a water.

4.1
Sodium dithionite. purity of greater than or equal to 87%.

4.2
sodium hydroxide.

4.3
acetone. chromatography.

4.4
dichloromethane. chromatography.

4.5
tetrahydrofuran. chromatography.

4.6
Methanol. chromatographically pure.

4.7
methyl tert-butyl ether. chromatography.

4.8
hexane. chromatographically pure.

4.9
acetonitrile. chromatography.

4.10
formic acid. 88%.

4.11
hydrochloric acid (rho1.38g/mL ~ 1.40g/mL). pure class distinctions.

4.12
aromatic primary amine standard. purity of greater than or equal to 98%, see Appendix A.

4.13
dithionite solution.200mg/mL, the time is now equipped with.

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4.14
Sodium hydroxide solution. 4mol/L.

4.15
hydrochloric acid solution. 4mol/L.

4.16
methanol - water mixed solution (11 volume). an equal volume of methanol and water miscible.

4.17
formic acid. volume fraction of 0.1%.

4.18
standard stock solution. namely, accurately weighed amount of aromatic primary amine standard, prepared in methanol at a concentration of 1000mg/L standard

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