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Textiles - Determination of quinoline

纺织品 喹啉的测定

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Table of Contents

Foreword
1 Scope
2 Normative references
3 Terms and definitions
4 Principle
5 Reagents
6 Instruments and Equipment

Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting is required.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

This document was proposed by the China National Textile and Apparel Council.

This document is under the jurisdiction of the National Technical Committee on Standardization of Textiles (SAC/TC 209).

This document was drafted by: Ningbo Huabiao Testing Co., Ltd., Shenzhen Shangshi Technology Co., Ltd., Ningbo Customs Technical Center, Guangdong Ju Shengxin Material Technology Co., Ltd., Zhejiang Boao New Material Co., Ltd., Changxing Dingqiang Textile Co., Ltd., China Textile Standard (Fujian) Testing Co., Ltd.

Ltd., China University of Metrology, China Textile Standards Inspection and Certification Co., Ltd., Zhejiang Institute of Inspection and Quarantine Science and Technology, Dongguan Xinxiang Textile Co., Ltd., Chengdu Customs Technical Center, Fujian Fiber Inspection Center.

The main drafters of this document are: Fu Kejie, Feng Rui, Ren Qingqing, Zhang Hui, Wu Gang, Zhou Kun, Yan Ying, Gao Quan, Zou Jie, Liu Jun, Xu Jianguo, Fang Liangxing, Cao Yejiang, Zhu Feng, and Lin Jinmei.

Determination of quinoline in textiles Warning - Personnel using this document should have practical experience in formal laboratory work. This document does not indicate all possible safety The user is responsible for taking appropriate safety and health measures and ensuring the conditions stipulated by relevant national laws and regulations.

1 Scope

This document describes a test method for the determination of quinoline residues in textiles using gas chromatography-mass spectrometry (GC-MS).

This document applies to all types of textile products.

2 Normative references

This document has no normative references.

3 Terms and definitions

There are no terms or definitions that require definition in this document.

4 Principle

The sample was extracted with methanol by ultrasonic method, and the extract was filtered through a microporous membrane and determined by gas chromatography-mass spectrometry using the external standard method.

5 Reagents

Unless otherwise specified, all reagents used were of chromatographic grade.

5.1 Methanol. CAS No. 67-56-1.

5.2 Quinoline standard substance. CAS No. 91-22-5, purity $\geq 98.0\%$.

5.3 Standard stock solution. Accurately weigh the quinoline standard substance (5.2) and dilute it with methanol (5.1) to a concentration of 1 000 mg/L.

The standard stock solution should be stored at 0 °C ~ 4 °C away from light and has a validity period of 6 months.

5.4 Standard working solution. Pipette an appropriate amount of quinoline stock solution (5.3) and use methanol (5.1) to prepare the standard working solution to a concentration of 0.05 µg/mL, 0.1 µg/mL, 0.5 µg/mL, 5.0 µg/mL, 10.0 µg/mL standard working solutions. The standard working solutions should be stored at 0 °C ~ 4 °C and protected from light. Save, valid for 3 months.

6 Instruments and Equipment

6.1 Gas chromatography-mass spectrometry (GC-MS). equipped with electron impact ionization source (EI).

6.2 Ultrasonic generator. operating frequency is (40±5) kHz, temperature controllable.

6.3 Analytical balance. graduation values are 0.1 mg and 0.01 g respectively.

6.4 Extractor. 20 mL ~50 mL, made of hard glass, with a stopper.

6.5 Filter membrane. Organic phase needle filter membrane, polytetrafluoroethylene, pore size 0.45 μm .

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