

ICS 59.080.01

CCS W 04



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

GB/T 45518-2025

**Textiles - Determination of prohibited or restricted dyestuffs -
Liquid chromatography-high resolution mass spectrometry
method**

纺织品 禁限用染料的测定 液相色谱-高分辨质谱法

Issued on: April 25, 2025

Implemented on: November 1, 2025

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

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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).

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Determination of banned or restricted dyes in textiles Liquid chromatography-high resolution mass spectrometry Warning. Personnel using this document should have practical experience in regular laboratory work. This document does not address all possible safety issues.

The user is responsible for taking appropriate safety and health measures and ensuring that the conditions stipulated by relevant national laws and regulations are met.

1 Scope

This document describes a method for the determination of 53 prohibited and restricted dyes in textiles using liquid chromatography-high resolution mass spectrometry (LC-HRMS).

This document is applicable to textile products that have been printed and dyed.

2 Normative references

GB/T 6682

3 Terms and definitions

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

4 Principle

The sample was heated and shaken to extract with pyridine-water solution as the extraction solvent. The supernatant was diluted and filtered through a filter membrane.

The content of the peptides was determined by LC-HRMS and quantified by external standard method.

5 Reagents and Materials

5.1 Water. Grade 1 water in accordance with GB/T 6682.

5.2 Acetonitrile. chromatographic grade.

5.3 Ammonium acetate aqueous solution (5 mmol/L). Weigh 0.385 g of ammonium acetate (chromatographic grade) and dissolve it in water. Transfer it to a 1 000 mL volumetric flask. Make up to volume with water.

5.4 Ammonium acetate aqueous solution (5 mmol/L, containing 0.01% formic acid). weigh 0.385 g of ammonium acetate (chromatographic grade) and dissolve it in water. Add 100 μ L Transfer formic acid (chromatographic grade) to a 1000 mL volumetric flask and make up to volume with water.

5.5 Pyridine-water solution (volume ratio 1.1). Equal volumes of pyridine (super pure) and water are miscible and stored in a brown glass bottle.

5.6 Methanol-water solution (volume ratio 1.1). Equal volumes of methanol (chromatographic grade) and water are miscible.

5.7 Pyridine-methanol-water solution (volume ratio 5.45.50). Take 50 mL pyridine (superior grade), 450 mL methanol (chromatographic grade) and 500 mL Water, mix well.

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