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

GB/T 20382-2025

Replacing GB/T 20382-2006, GB/T 20383-2006

**Textiles - Determination of extractable allergenic, carcinogenic
and other dyestuffs**

纺织品 可提取致敏、致癌及其他染料的测定

(English Translation)

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

Drafting.

This document supersedes GB/T 20382-2006 "Determination of Carcinogenic Dyes in Textiles" and GB/T 20383-2006 "Sensitizing Dyes in Textiles".

"Determination of Disperse Dyes". This document is based on GB/T 20382-2006, and integrates the content of GB/T 20383-2006, and...

Compared with GB/T 20382-2006, apart from structural adjustments and editorial changes, the main technical changes are as follows.

- The principle has been changed (see Chapter 4, Chapter 3 of the 2006 edition);
- Reagents and materials have been changed (see Chapter 5, Chapter 4 of the 2006 edition);
- The instruments and equipment have been changed (see Chapter 6, Chapter 5 of the 2006 edition);
- The experimental procedures have been changed (see Chapter 7, Chapter 6 of the 2006 edition);
- The formulas for calculating the content of each target sensitizing, carcinogenic, and other dyes have been changed (see Chapter 8, Chapter 7 of the 2006 edition);
- The limits of quantitation have been changed (see 9.1, 8.1 in the 2006 edition);
- Precision has been revised (see 9.2, 8.2 in the 2006 edition);
- The content regarding sensitization, carcinogenicity, and other dyes has been revised (see Appendix B, Appendix A of the 2006 edition).

This document is modified to adopt ISO 16373-2:2014 "Textiles - Dyes - Part 2: Extractable dyes including sensitizing and carcinogenic dyes".

The dye was determined using a general method (using the pyridine-water method).

This document has undergone the following structural adjustments compared to ISO 16373-2:2014.

---Move the "Safety Warnings" section of Chapter 5 of ISO 16373-2:2014 below the main text heading;

---Chapter 5 corresponds to Chapter 6 in ISO 16373-2:2014;

---Chapter 6 corresponds to Chapter 7 in ISO 16373-2:2014;

---Chapter 7 corresponds to Chapter 8 in ISO 16373-2:2014;

---Chapter 8 corresponds to Chapter 9 and Annex C of ISO 16373-2:2014;

---Chapter 10 corresponds to Chapter 10 of ISO 16373-2:2014;

Appendix B corresponds to Annex A and Annex B in ISO 16373-2:2014;

---Appendix C corresponds to Appendix D in ISO 16373-2:2014.

This document differs significantly from ISO 16373-2:2014. The relevant clauses are indicated in the margins using vertical single characters.

The lines (|) are marked. A summary of these technical differences and their causes can be found in Appendix A.

The following editorial changes have been made to this document.

---The standard title has been changed to "Determination of Extractable Sensitizing, Carcinogenic and Other Dyes in Textiles";

---Note 1 and Note 3 have been added in version 7.2, and the original notes have been changed to Note 2;

---Section 8.4 "Calibration" of ISO 16373-2:2014 has been deleted; the preparation of the relevant standard working solutions is already described in section 5.6.

---Appendices A and D have been added;

---Informative Annex E, "Reliability of methods," of ISO 16373-2:2014 has been deleted;

---Informative Annex F of ISO 16373-2:2014, "Multi-step extraction of pyridine water from some textile fibers," has been deleted;

---The references to ISO 16373-2:2014 have been removed.

Please note that some content in this document may involve patents. The issuing organization of this document assumes no 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/TC209).

1 Scope

This document describes methods for determining extractable sensitizing, carcinogenic, and other dyes in textile products.

This document applies to textile products that have undergone printing and dyeing processes.

Other extractable dyes can be tested in accordance with this document after verification.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies.

This document.

GB/T 6682 Specifications and test methods for water used in analytical laboratories (GB/T 6682-2008, ISO 3696:1987, MOD)

3 Terms and Definitions

The following terms and definitions apply to this document.

Sensitizing dyes aergenic dyestuffs Dyes that can cause allergic skin reactions.

Dyes that are classified as carcinogens.

4 Principles

Extractable carcinogenic, sensitizing, and other dyes (according to Appendix B) from the sample using pyridine-water at 100°C. The extract is then filtered through a membrane.

After filtration, the samples were analyzed using liquid chromatography-tandem mass spectrometry (LC-MS/MS) or liquid chromatography-mass spectrometry (LC-MS), with external standard method for quantification.

5 Reagents and Materials

Unless otherwise stated, all reagents used are of analytical grade.

5.1

Pyridine, CAS No. 110-86-1.

5.2

Acetonitrile, chromatographic grade, CAS No. 75-05-8.

5.3

Ammonium acetate, CAS No. 631-61-8.