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

GB/T 2400-2025

Replacing GB/T 2400-2014

**Cationic dyes - Determination of compatible index in acrylic
dyeing**

阳离子染料 染腈纶时配伍指数的测定

(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 replaces GB/T 2400-2014 "Determination of Compatibility Index of Cationic Dyes on Acrylic Fibers" and is consistent with GB/T 2400-2014.

Compared to previous versions, aside from structural adjustments and editorial changes, the main technical changes are as follows.

- a) Added terms and definitions (see Chapter 3);
- b) The principle has been modified, and the number of samples to be dyed in each dye bath has been supplemented (see Chapter 4, Chapter 3 of the 2014 edition);
- c) Added fabrics, glacial acetic acid, crystalline sodium acetate, and reference dyes (see Chapter 5);
- d) Reference dye structure categories have been added (see Table 1);
- e) The requirements for instruments and equipment have been changed (see Chapter 6, Chapter 5 of the 2014 edition);
- f) Increased requirements for laboratory staining equipment [see Chapter 6b)];
- g) References to GB/T 4841.1-2006 and GB/T 6687 have been added (see 7.1.2);
- h) The test conditions in the test report have been removed, and a reference dye series and test personnel have been added (see Chapter 8, 2014 edition, page 7). chapter).

This document is modified to adopt ISO 105-Z03.1996 "Textiles - Tests for color fastness - Z03 - Part III. Compatibility of basic dyes for dyeing acrylic fibers". sex".

Compared with ISO 105-Z03.1996, this document has undergone many structural adjustments. A comparison of the structural numbering changes between the two

documents is provided below. See Appendix A for the table.

This document differs significantly from ISO 105-Z03.1996 in several technical aspects. These differences are indicated in the margins of the relevant clauses.

Vertical single lines (|) are marked. A summary of these technical differences and their reasons can be found in Appendix B. The following editorial changes have been made to this document.

---To align with existing standards, the standard title has been changed to "Determination of Compatibility Index for Cationic Dyes on Acrylic Fibers";

---The footnote in Table 1 of ISO 105-Z03.1996 has been deleted, and omf has been changed to owf;

---Note in Chapter 3 of ISO 105-Z03.1996 has been deleted;

---The note on the reference dyes has been deleted (see 5.2 of ISO 105-Z03.1996).

1 Scope

This document describes a method for determining the compatibility index when using cationic dyes to dye acrylic fibers.

This document applies to the selection of dyes when using cationic dyes for color matching.

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 2374-2017 General conditions for dyeing determination

GB/T 2399-2014 Determination of hue and intensity of dyeing with cationic dyes

GB/T 4841.1-2006 Standard Depth Color Chart for Dyeing 1/1

GB/T 6687 Dye Terminology

3 Terms and Definitions

The terms and definitions defined in GB/T 6687 apply to this document.

Two sets of reference dyes, one for yellow and one for blue, are used. Each set consists of five reference dyes, each with a corresponding compatibility index.

The grades 1, 2, 3, 4, and 5 are used as the evaluation criteria. The dye samples were then mixed and dyed with a set of reference dyes that showed significant differences in hue.

In each dye bath, six fabrics were sequentially dyed. Then, each group of sequentially dyed fabrics was evaluated, with the dyed fabrics being assessed.

The compatibility index of the reference dye with the smallest change in hue is used as the compatibility index of the dye sample.

The reagents and materials used shall comply with the provisions of Chapter 3 of GB/T 2374-2017.

- a) Fabric. Acrylic bulky yarn;
- b) Glacial acetic acid;
- c) Crystalline sodium acetate ($\text{CH}_3\text{COONa} \cdot 3\text{H}_2\text{O}$);
- d) Reference dyes (see Table 1).