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

GB/T 21883-2025

Replacing GB/T 21883-2016

**Fluorescent whitening agents - Determination of UV absorption
and fluorescence strength**

荧光增白剂 紫外吸收和荧光强度的测定

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Standardization Administration of the PRC**

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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 21883-2016 "Determination of Fluorescence Intensity of Fluorescent Whitening Agents". Compared with GB/T 21883-2016, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

- a) The scope of the standard has been changed (see Chapter 1, Chapter 1 of the.2016 edition);
- b) Added terms and definitions (see Chapter 3);
- c) The principle of ultraviolet absorption has been added (see 4.2);
- d) Added content on reagents (see Chapter 5);
- e) The requirements for instruments and equipment have been changed (see Chapter 6, Chapter 4 of the.2016 edition);
- f) The general requirements for test specimens have been changed (see 7.1, 5.1 in the.2016 edition);
- g) Increased requirements for test temperature (see 7.3);
- h) The determination of ultraviolet absorption has been added (see 7.4.4.2 and 7.5.5.2);
- i) The calculation of ultraviolet absorption results has been added (see 7.6.2);
- j) Increased the allowable difference in UV absorption (see 7.7.2);

1 Scope

GB/T 21883-2025 is the Chinese national standard covering how strong an optical

brightener is - the ultraviolet absorption and the fluorescence emission measured against a reference, the solvent and concentration, and the relative strength the product is traded on. Issued on 5 October 2025, it has been in force since 1 May 2026, replacing GB/T 21883-2016.

This document describes the methods for determining the ultraviolet absorption and fluorescence intensity of fluorescent whitening agents. This document applies to the determination of UV absorption and fluorescence intensity of various types of fluorescent whitening agents (including water-soluble and water-insoluble ones).

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 6682 Specifications and test methods for water used in analytical laboratories

GB/T 6687 Dye Terminology

GB/T 8170 Rules for rounding off numerical values and the representation and determination of limiting values

3 Terms and Definitions

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

4 Principles

4.1 Fluorescence Intensity The fluorescent whitening agent sample and the standard were prepared into a solution of appropriate concentration under the same conditions, and the solution was analyzed using a UV spectrophotometer at the maximum absorption wavelength. The absorbance value was measured at the standard, and the fluorescence intensity of the sample relative to the standard was expressed as a percentage of the absorbance coefficient of the sample to that of the standard.

4.2 Ultraviolet Absorption The fluorescent whitening agent sample was prepared into a solution of appropriate concentration under certain conditions, and the concentration was measured at the maximum absorption wavelength using a UV spectrophotometer. The absorbance value was calculated and converted into the absorbance value of a cuvette with a mass concentration of 10 g/L and an optical path of 10 mm, i.e., ultraviolet absorption.

5.Reagents and Materials The reagents and materials used should conform to the specifications in Chapter 3 of GB/T 2374-2017.

- a) N,N-Dimethylformamide (DMF);
- b) Anhydrous sodium carbonate;
- c) Sodium hydroxide;
- d) Other solvents.

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