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

GB/T 25248-2026

Replacing GB/T 25248-2010

**Determination of infrared cyanine dye in 830 nm digital printing
plate materials - High performance liquid chromatography**

830nm数字制版材料用红外吸收菁染料含量的测定 高效液相色谱法

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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 25248-2010 "Determination of Cyanide Content in 830nm Digital Plate Making Materials by Infrared Absorption Spectrometry". Compared with GB/T 25248-2010, the main technical changes in "Chromatography" are as follows, apart from structural adjustments and editorial modifications.

- a) The reagent "dioxane" was changed to "potassium dihydrogen phosphate" (see 7.2, 6.2 in the 2010 edition);
- b) The specifications for the water used have been changed (see 7.3, 6.3 in the 2010 edition);
- c) The 10mL volumetric flask has been removed (see 7.3 in the 2010 edition);
- d) The instrument "pipette" was changed to "pipette" and its capacity was changed (see 8.4, 7.4 in the 2010 version);
- e) The pore size of the filter membrane used was changed (see 8.5, 7.5 in the 2010 edition);
- f) Columns of the specified brand were removed (see 8.1 in the 2010 edition);

1 Scope

GB/T 25248-2026 is the Chinese national standard covering the infrared dye in a thermal printing plate - the molecule that absorbs the laser and converts it to the heat that images

the plate, present in small amounts and decisive for the exposure energy required. It replaces GB/T 25248-2010, and it belongs with the CTP plate performance standard GB/T 47602-2026 of this year. It was issued on 28 January 2026 and has been in force since 1 August 2026, replacing GB/T 25248-2010. The document is under the responsibility of the China Petroleum and Chemical Industry Federation. This page is published from the official record of the 2026 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document describes a method for determining the content of infrared-absorbing cyanine dyes in 830nm digital printing materials using high-performance liquid chromatography. This document applies to the quality control of infrared-absorbing benzoindole cyanine dyes used in 830nm digital plate-making materials. Measured impurities... The limit of detection is 0.01%.

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 6679 General Rules for Sampling of Solid Chemical Products

GB/T 6682 Specifications and test methods for water used in analytical laboratories

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

3 Terms and Definitions

This document does not contain any terms or definitions that need to be defined.

4. Basic Characteristics The chemical name of the infrared-absorbing cyanine dye product for 830nm digital plate making materials is

2-[2-[2-chloro-3-[2-(1,3-dihydro-1,1,3-trichloro-3-...

[Methyl-2-hydro-benzoindole-2-ylidene]-ethylidene]-1-cyclohexen-1-yl]-vinyl]-1,1,3-trimethyl-1-hydro-benzoindole-4- Methylbenzenesulfonate, CAS number. 134127-48-3, structural formula. Molecular formula. C₄₇H₄₇ClN₂O₃S Relative molecular mass. 755.41 (based on 2021 international relative atomic mass)