
**Caprolactam for industrial use —
Determination of colour of 50 %
aqueous caprolactam solution,
expressed in Hazen units (platinum-
cobalt scale) — Spectrometric method**

*Caprolactame à usage industriel — Détermination de la coloration
d'une solution aqueuse à 50 % de caprolactame, exprimée en unités
Hazen (échelle platine-cobalt) — Méthode spectrométrique*

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This second edition cancels and replaces the first edition (ISO 8112:1984), which has been technically revised.

The main changes are as follows:

- the option to use a flow-through cell for the absorption measurement has been added;
- the temperature of measured solution has been taken into account.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Caprolactam for industrial use — Determination of colour of 50 % aqueous caprolactam solution, expressed in Hazen units (platinum-cobalt scale) — Spectrometric method

1 Scope

This document specifies a spectrometric method of determining the colour, expressed in Hazen units, of a 50 % aqueous caprolactam solution as a measure of coloured impurities content of the sample.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 2211, *Liquid chemical products — Measurement of colour in Hazen units (platinum-cobalt scale)*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

3.1

Pt/Co scale

colour expressed in Hazen units

number which indicates the amount of platinum, in milligrams per litre, in the standard solution the absorbance of which, measured at a wavelength of 390 nm, is equal to that of the 50 % aqueous solution of caprolactam measured at the same conditions

4 Principle

The absorbance of a solution of a 50 % aqueous caprolactam solution is measured at a wavelength of 390 nm and optical path length of 50 mm using a spectrometer, and expressed in Hazen units by multiplying the absorbance measured by a constant factor equal to 150.

This factor is derived from measurements of absorbance of diluted standard solutions of platinum-cobalt scale (Pt/Co scale) in accordance with ISO 2211.

5 Reagents

During the analysis, use only distilled water or water of equivalent purity.

6 Apparatus

Ordinary laboratory apparatus and spectrometer, capable of measuring the absorbance at a wavelength of 390 nm.