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I.S. EN ISO 7579:2009

Dyestuffs - Determination of solubility in organic solvents - Gravimetric and photometric methods (ISO 7579:2009)

I.S. EN ISO 7579:2009

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Dyestuffs - Determination of solubility in organic solvents - Gravimetric and photometric methods (ISO 7579:2009)

Colorants - Détermination de la solubilité dans les solvants organiques - Méthodes gravimétrique et photométrique (ISO 7579:2009)

Farbstoffe - Bestimmung der Löslichkeit in organischen Lösemitteln - Gravimetrisches und photometrisches Verfahren (ISO 7579:2009)

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INTERNATIONAL STANDARD

ISO 7579

Second edition
2009-10-15

Dyestuffs — Determination of solubility in organic solvents — Gravimetric and photometric methods

Colorants — Détermination de la solubilité dans les solvants organiques — Méthodes gravimétrique et photométrique

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 7579 was prepared by Technical Committee ISO/TC 35, *Paints and varnishes*, Subcommittee SC 2, *Pigments and extenders*.

This second edition cancels and replaces the first edition (ISO 7579:1990), in which the mixing time has been reduced from 24 h to 3 h but the temperature has been increased from 105 °C to 150 °C, Method B and Annex B have been deleted and a photometric test method has been added.

Introduction

Many dyestuffs are soluble in a solvent to an extent which is independent of the amount of dyestuff present in the solvent, as long as excess dyestuff is present. This concentration is defined as the saturation concentration and represents the solubility of the dyestuff in the solvent. In some cases, however, there is no fixed saturation concentration and the amount of dyestuff which dissolves increases with the amount of dyestuff added. A gravimetric and a photometric procedure to assess the solubility of these dyes are described in this International Standard.

Dyestuffs — Determination of solubility in organic solvents — Gravimetric and photometric methods

1 Scope

This International Standard specifies two methods for determining the solubility of dyestuffs in organic solvents. They are applicable to dyestuffs that do not change chemically under the influence of the solvent and are stable and non-volatile under the specified drying conditions. For volatile solvents (boiling point < 120 °C), the gravimetric procedure is recommended and, for less volatile solvents (boiling point > 120 °C), the photometric procedure is recommended. The choice of procedure should be made on a case-by-case basis.

The methods are suitable for concentrations between 1 g and 1 000 g of dyestuff per litre of solvent. Higher concentrations can be used provided the viscosity of the solution is such that the procedure can be carried out readily.

The methods are not suitable for the determination of insoluble matter in a dyestuff.

2 Normative references

The following referenced documents are indispensable for the application 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 787-2, *General methods of test for pigments and extenders — Part 2: Determination of matter volatile at 105 °C*

ISO 2811-1, *Paints and varnishes — Determination of density — Part 1: Pyknometer method*

ISO 15528, *Paints, varnishes and raw materials for paints and varnishes — Sampling*

3 Terms and definitions

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

3.1
solubility
maximum mass of a dyestuff that is soluble in a given volume of a particular solvent under specified conditions

NOTE Solubility is expressed in grams per litre of solvent (see Annex A). No distinction is made between “true” solubility and “colloidal” solubility.

4 Principle

Different amounts of the dyestuff are each dispersed in a defined volume of a solvent at 23 °C. After mixing for 3 h, each dispersion is centrifuged and the solids content of the supernatant liquid is determined by either gravimetric or photometric measurements.