

BUXca Yý U.**SIST EN ISO 8988:1999**

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Plastics - Phenolic resins - Determination of hexamethylenetetramine content - Kjeldahl method, perchloric acid method and hydrochloric acid method (ISO 8988:2006)

Kunststoffe - Phenolharze - Bestimmung des Hexamethylentetramingehaltes - Kjeldahl-Verfahren, Perchlorsäureverfahren und Salzsäureverfahren (ISO 8988:2006)

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Plastiques - Résines phénoliques - Détermination de la teneur en hexaméthylentétramine - Méthode Kjeldahl, méthode a l'acide perchlorique et méthode a l'acide chlorhydrique (ISO 8988:2006)

Ta slovenski standard je istoveten z: EN ISO 8988:2006

ICS:

83.080.10 Duomeri Thermosetting materials

SIST EN ISO 8988:2006**en**

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English Version

Plastics - Phenolic resins - Determination of
hexamethylenetetramine content - Kjeldahl method, perchloric
acid method and hydrochloric acid method (ISO 8988:2006)

Plastiques - Résines phénoliques - Détermination de la
teneur en hexaméthylènetétramine - Méthode Kjeldahl,
méthode à l'acide perchlorique et méthode à l'acide
chlorhydrique (ISO 8988:2006)

Kunststoffe - Phenolharze - Bestimmung des
Hexamethylentetramingehaltes - Kjeldahl-Verfahren,
Perchlorsäureverfahren und Salzsäureverfahren (ISO
8988:2006)

This European Standard was approved by CEN on 26 August 2006.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Foreword

This document (EN ISO 8988:2006) has been prepared by Technical Committee ISO/TC 61 "Plastics" in collaboration with Technical Committee CEN/TC 249 "Plastics", the secretariat of which is held by IBN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2007, and conflicting national standards shall be withdrawn at the latest by March 2007.

This document supersedes EN ISO 8988:1997.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 8988:2006 has been approved by CEN as EN ISO 8988:2006 without any modifications.

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**Plastics — Phenolic resins —
Determination of hexamethylenetetramine
content — Kjeldahl method, perchloric
acid method and hydrochloric acid
method**

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*Plastiques — Résines phénoliques — Détermination de la teneur en
hexaméthylènetétramine — Méthode Kjeldahl, méthode à l'acide
perchlorique et méthode à l'acide chlorhydrique*
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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

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 8988 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 12, *Thermosetting materials*.

This third edition cancels and replaces the second edition (ISO 8988:1995), which has been technically revised to include a hydrochloric acid method.

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Plastics — Phenolic resins — Determination of hexamethylenetetramine content — Kjeldahl method, perchloric acid method and hydrochloric acid method

SAFETY STATEMENT — Persons using this document should be familiar with normal laboratory practice, if applicable. This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any regulatory requirements.

1 Scope

This International Standard specifies three methods for the determination of the hexamethylenetetramine (“hexa”) content of phenolic resins. The three methods are equivalent. The Kjeldahl method described in Clause 3 is not applicable if there are other components containing nitrogen in the phenolic resin. The perchloric acid method and the hydrochloric acid method described in Clause 4 and Clause 5, respectively, are only applicable if there are no other basic or acidic additives in the resin. If the resin contains additives which can be oxidized by perchloric acid, only the hydrochloric acid method (Clause 5) is applicable.

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 385, *Laboratory glassware — Burettes*

3 Kjeldahl method

WARNING — For safety reasons, the Kjeldahl determination must be carried out in a well ventilated fume cupboard.

3.1 General

This clause specifies a method for the determination of total nitrogen, expressed as hexamethylenetetramine, in phenolic resins. The method is applicable to hexamethylenetetramine contents of $\geq 0,5$ % (by mass).

3.2 Principle

The hexamethylenetetramine in a test portion is converted to ammonium bisulfate by decomposition in hot concentrated sulfuric acid in the presence of a catalyst.

The ammonium bisulfate is converted to sodium sulfate and ammonia by reaction with sodium hydroxide.

The ammonia is distilled off and collected in hydrochloric acid.

The excess hydrochloric acid is titrated with a standard volumetric solution of sodium hydroxide using a colorimetric indicator.