

**Plastid. Tuhasisalduse määramine. Osa 4:  
Polüamiidid**

Plastics - Determination of ash - Part 4: Polyamides

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 3451-4:2001 sisaldab Euroopa standardi EN ISO 3451-4:2000 ingliskeelset teksti.

Standard on kinnitatud Eesti Standardikeskuse 16.02.2001 käskkirjaga ja jõustub sellekohase teate avaldamisel EVS Teatajas.

Standard on kättesaadav Eesti standardiorganisatsioonist.

This Estonian standard EVS-EN ISO 3451-4:2001 consists of the English text of the European standard EN ISO 3451-4:2000.

This standard is ratified with the order of Estonian Centre for Standardisation dated 16.02.2001 and is endorsed with the notification published in the official bulletin of the Estonian national standardisation organisation.

The standard is available from Estonian standardisation organisation.

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**English version**

**Plastics – Determination of ash**

Part 4: Polyamides  
(ISO 3451-4 : 1998)

Plastiques – Détermination du taux  
de cendres – Partie 4: Polyamides  
(ISO 3451-4 : 1998)

Kunststoffe – Bestimmung der Asche –  
Teil 4: Polyamide (ISO 3451-4 : 1998)

This European Standard was approved by CEN on 2000-09-08.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

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## Foreword

International Standard

ISO 3451-4 : 2000 Plastics – Determination of ash – Part 4: Polyamides, which was prepared by ISO/TC 61 ‘Plastics’ of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 249 ‘Plastics’, the Secretariat of which is held by IBN, as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by March 2001 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

## Endorsement notice

The text of the International Standard ISO 3451-4 : 1998 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

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**WARNING** — This part of ISO 3451 may involve hazardous chemicals, materials and operations. This part of ISO 3451 does not purport to address the safety problems associated with its use. It is the responsibility of the user to establish proper safety and health practices and determine the applicability of regulatory limitations prior to use.

## 1 Scope

This part of ISO 3451 specifies methods for determination of the ash of polyamides, both filled and unfilled. The general procedures given in ISO 3451-1 are followed. For unfilled materials method A or method C of ISO 3451-1:1997 is used. For filled and glass-fibre reinforced materials method A of ISO 3451-1:1997 is used.

For glass-fibre filled materials containing flame retardant, antimony trioxide, and/or other, volatilizable, additives such as pigment zinc sulfide, a modification is incorporated to remove these as volatile bromine component(s).

## 2 Normative reference

The following standard contains provisions which, through reference in this text, constitute provisions of this part of ISO 3451. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this part of ISO 3451 are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO 3451-1:1997, *Plastics — Determination of ash — Part 1: General methods*.

## 3 Principle

### 3.1 Unfilled materials

Direct calcination by burning the organic matter and treating the residue at a high temperature until constant mass is reached (ISO 3451-1:1997, method A).

If the material contains metal halides and/or metals (especially in the presence of halogenated material) which are liable to evaporate during burning of the organic matter, calcination after sulfation can be applied (ISO 3451-1:1997, method C). This procedure is carried out by heating the organic matter together with concentrated sulfuric acid up to a temperature where fuming and subsequent burning of the organic matter occurs, and finally treating the residue at a high temperature until constant mass is reached.

### 3.2 Filled and glass-fibre reinforced materials

Direct calcination, by burning the organic matter and treating the residue at a high temperature until constant mass is reached (ISO 3451-1:1997, method A) (see note 1 in 3.3).