

**Paper and board intended to come into contact with foodstuffs - Conditions for determination of migration from paper and board using modified polyphenylene oxide (Tenax) as a simulant**

Paper and board intended to come into contact with foodstuffs - Conditions for determination of migration from paper and board using modified polyphenylene oxide (Tenax) as a simulant

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 14338:2004 sisaldab Euroopa standardi EN 14338:2003 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.05.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 14338:2004 consists of the English text of the European standard EN 14338:2003.</p> <p>This document is endorsed on 18.05.2004 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p><b>Käsitlusala:</b></p> <p>This European Standard describes a test method for the determination of the transfer or migration of volatile and semivolatile components from paper and board. This test method is developed for paper and board intended to come in contact with dry, non fatty foodstuffs and paper and board for baking purposes. In the last case the modified polyphenylenoxide (MPPO) may be seen as a substitute simulant for fatty contact.</p>	<p><b>Scope:</b></p> <p>This European Standard describes a test method for the determination of the transfer or migration of volatile and semivolatile components from paper and board. This test method is developed for paper and board intended to come in contact with dry, non fatty foodstuffs and paper and board for baking purposes. In the last case the modified polyphenylenoxide (MPPO) may be seen as a substitute simulant for fatty contact.</p>
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ICS 67.250

**Võtmesõnad:** food-container c, investigations, materials, materials in contact with food, materials specification, materials testing, migration, migration resistance, objects, paper, polyphenylene oxide, specimen preparation, temperature, test equipment, test pieces, testing

ICS 67.250

English version

**Paper and board intended to come into contact with foodstuffs -  
Conditions for determination of migration from paper and board  
using modified polyphenylene oxide (MPPO) as a simulant**

Papiers et cartons destinés à être en contact avec des denrées alimentaires - Conditions de détermination de la migration des papiers et cartons en utilisant de l'oxyde de polyphénylène modifié (MPPO) comme solvant simulateur

Papier und Pappe vorgesehen für den Kontakt mit Lebensmitteln - Voraussetzungen für die Bestimmung des Übergangs von Papier und Pappe durch die Anwendung von modifizierten Polyphenylenoxiden (MPPO) als ein Simulanz

This European Standard was approved by CEN on 3 November 2003.

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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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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## Foreword

This document (EN 14338:2003) has been prepared by Technical Committee CEN/TC 172 "Paper, board and pulps", the secretariat of which is held by DIN.

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 June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

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

## 1 Scope

This European Standard specifies a method to assess the transfer or migration of specific volatile and semivolatile substances from paper and board. This test method is developed for paper and board intended to come in contact with dry, non fatty foodstuffs and paper and board for baking purposes. In the last case the modified polyphenylenoxide (MPPO) can be seen as a substitute simulant for fatty contact.

NOTE MPPO can also be seen as a substitute simulant for olive oil.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 1186-1:2002, *Materials and articles in contact with foodstuffs — Plastics — Part 1: Guide to the selection of conditions and test methods for overall migration.*

EN 1186-13:2002, *Materials and articles in contact with foodstuffs — Plastics — Part 13: Test method for overall migration at high temperatures.*

## 3 Principle

The surface of the article to be tested is covered with modified polyphenylene oxide (Tenax ®<sup>1)</sup>) and held at the desired time-temperature test conditions where the maximum temperature applicable is 175 °C. The heating takes place in a conventional oven even when the samples are for use in a microwave oven. The exposure is followed by extraction of the adsorbent using an organic solvent depending on the used specific analytical method. In this extract the analysis for the desired components is possible.

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<sup>1)</sup> Tenax is a trade name of a product supplied by Varian BV, Herculesweg 8, NL-4338 PL Middelburg. This information is given for the convenience of users of this European Standard and does not constitute an endorsement by CEN of the product named. Equivalent products may be used if they can be shown to lead to the same results.