Materials and articles in contact with foodstuffs - Plastics - Part 10: Test methods for overall migration into olive oil (modified method for use in cases where incomplete extraction of olive oil occurs)

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EESTI STANDARDI EESSÕNA NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN 1186-10:2003 sisaldab Euroopa standardi EN 1186-10:2002 ingliskeelset teksti. Käesolev dokument on jõustatud 18.02.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 1186-10:2003 consists of the English text of the European standard EN 1186-10:2002. This document is endorsed on 18.02.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies test methods for the determination of the overall migration into fatty food simulants from plastics materials and articles, by total immersion of test specimens in a fatty food simulant at any temperatures above 5 °C up to and including 175 °C for selected times	**Scope:** This European Standard specifies test methods for the determination of the overall migration into fatty food simulants from plastics materials and articles, by total immersion of test specimens in a fatty food simulant at any temperatures above 5 °C up to and including 175 °C for selected times

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Võtmesõnad: edible oils, food p, food products, food-container c, immersion, immersion tests, liquid materials, materials, materials in contact with food, materials specification, migration, objects, olive oil, plastic containers, plastic films, plastics, testing, testing aids

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English version

Materials and articles in contact with foodstuffs - Plastics - Part 10: Test methods for overall migration into olive oil (modified method for use in cases where incomplete extraction of olive oil occurs)

Matériaux et objets en contact avec les denrées alimentaires - Matière plastique - Partie 10: Méthodes d'essai pour la migration globale dans l'huile d'olive (méthode modifiée à utiliser en cas d'extraction incomplète de l'huile d'olive)

Werkstoffe und Gegenstände in Kontakt mit Lebensmitteln - Kunststoffe - Teil 10: Prüfverfahren für die Gesamtmigration in Olivenöl (Modifiziertes Verfahren für die Andwendung bei unvollständiger Extraktion von Olivenöl)

This European Standard was approved by CEN on 2 May 2002.

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 Management Centre 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document EN 1186-10:2002 has been prepared by Technical Committee CEN/TC 194 “Utensils in contact with food”, the secretariat of which is held by BSI.

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 2003, and conflicting national standards shall be withdrawn at the latest by March 2003.

This document supersedes ENV 1186-10:1994.

This European Standard has been prepared as one of a series of methods of test for plastics materials and articles in contact with foodstuffs.

This Part of this European Standard has been prepared by a Subcommittee (SC1) of TC 194 'Utensils in contact with food' as one of a series of methods of test for plastics materials and articles in contact with foodstuffs.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association.

For relationship with EU Directive(s), see informative annex ZA, which is an integral part of this document.

At the time of preparation and publication of this standard the European Union legislation relating to plastics materials and articles intended to come into contact with foodstuffs is incomplete. Further Directives and amendments to existing Directives are expected which could change the legislative requirements which this standard supports. It is therefore strongly recommended that users of this standard refer to the latest relevant published Directive(s) before commencement of any of the test or tests described in this standard.

EN 1186-10 should be read in conjunction with EN 1186-1, EN 1186-2, EN 1186-4, EN 1186-6, EN 1186-8, prEN 1186-12 and EN 1186-13.

Further Parts of this standard have been prepared concerned with the determination of overall migration from plastics materials into food simulants. Their titles are as follows:

EN 1186 Materials and articles in contact with foodstuffs – Plastics –

Part 1	Guide to the selection of conditions and test methods for overall migration
Part 2	Test methods for overall migration into olive oil by total immersion
Part 3	Test methods for overall migration into aqueous food simulants by total immersion
Part 4	Test methods for overall migration into olive oil by cell
Part 5	Test methods for overall migration into aqueous food simulants by cell
Part 6	Test methods for overall migration into olive oil using a pouch
Part 7	Test methods for overall migration into aqueous food simulants using a pouch
Part 8	Test methods for overall migration into olive oil by article filling
Part 9	Test methods for overall migration into aqueous food simulants by article filling
Part 11	Test methods for overall migration into mixtures of ^{14}C-labelled synthetic triglyceride
Part 12	Test methods for overall migration at low temperatures
Part 13	Test methods for overall migration at high temperatures
Part 14	Test methods for 'substitute tests' for overall migration from plastics intended to come into

contact with fatty foodstuffs using test media iso-octane and 95 % ethanol

Part 15 Alternative test methods to migration into fatty food simulants by rapid extraction into iso-octane and/or 95 % ethanol

Annex A of this standard is normative where applicable. Annex B is informative.

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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies test methods for the determination of the overall migration into fatty food simulants from plastics materials and articles, by total immersion of test specimens in a fatty food simulant at any temperatures above 5 °C up to and including 175 °C for selected times.

When some plastics are tested by the methods in EN 1186-2, EN 1186-4, EN 1186-6, EN 1186-8, prEN 1186-12 and EN 1186-13, the soxhlet extraction process does not achieve complete recovery of the absorbed olive oil from the test specimens. In this method, the olive oil is released from the plastics test specimens by dissolving them in chloroform, toluene, xylene or tetrahydrofuran.

This method is suitable for plastics when exposure to olive oil is by total immersion as described in EN 1186-2, in a cell, as described in EN 1186-4, in a pouch, as described in EN 1186-6, and by filling, as described in EN 1186-8 and to tests carried out at low and high temperature, as described in prEN 1186-12 and EN 1186-13.

This is provided the plastics are soluble in chloroform, toluene, xylene or tetrahydrofuran and insoluble in methanol and that whenever prEN 1186-2 is referred to in this method the appropriate clause of the relevant part of EN 1186 is substituted.

The method can also be suitable for plastics which are only partially soluble in chloroform, toluene, xylene or tetrahydrofuran and insoluble in methanol.

NOTE 1 This test method has been written for use with the fatty food simulant, olive oil. The test method can also be used with appropriate modifications with 'other fatty food simulants' called simulant D - a synthetic mixture of triglycerides, sunflower oil and corn oil. These other fatty food simulants will produce different chromatograms for the simulant methyl esters to those of the methyl esters of olive oil. Select suitable chromatogram peaks of the methyl esters of the other fatty food simulants for the quantitative determination of the simulant extracted from the test specimens.

NOTE 2 If it has been established that the overall migration into olive oil from the plastics cannot be determined by use of either this method or the methods described in EN 1186-2, EN 1186-4, EN 1186-6 and EN 1186-8 then the use of substitute tests should be considered, see clause 6 of EN 1186-1:2001.

2 Normative references

This European Standard incorporates by dated and 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 and 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 (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 1186-2:2002, *Materials and articles in contact with foodstuffs – Plastics – Part 2: Test methods for overall migration into olive oil by total immersion.*