

Animal and vegetable fats and oils - Determination of polycyclic aromatic hydrocarbons

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15753:2006 sisaldab Euroopa standardi EN ISO 15753:2006 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 27.10.2006 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 15753:2006 consists of the English text of the European standard EN ISO 15753:2006.</p> <p>This document is endorsed on 27.10.2006 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>Käsitlusala:</p> <p>This International Standard describes two methods for the determination of 15 polycyclic aromatic hydrocarbons (PAHs) in animal and vegetable fats and oils: - a general method, and - a method specific for coconut oil and vegetable oils with short-chain fatty acids. These methods are not quantitative for the very volatile compounds such as naphthalene, acenaphthene and fluorene. Due to interferences provided by the matrix itself, palm oil and olive pomace oil cannot be analysed using this method.</p>	<p>Scope:</p> <p>This International Standard describes two methods for the determination of 15 polycyclic aromatic hydrocarbons (PAHs) in animal and vegetable fats and oils: - a general method, and - a method specific for coconut oil and vegetable oils with short-chain fatty acids. These methods are not quantitative for the very volatile compounds such as naphthalene, acenaphthene and fluorene. Due to interferences provided by the matrix itself, palm oil and olive pomace oil cannot be analysed using this method.</p>
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English Version

Animal and vegetable fats and oils - Determination of polycyclic aromatic hydrocarbons (ISO 15753:2006)

Corps gras d'origines animale et végétale - Détermination des hydrocarbures aromatiques polycycliques (ISO 15753:2006)

Tierische und pflanzliche Fette und Öle - Bestimmung von polycyclischen aromatischen Kohlenwasserstoffen (ISO 15753:2006)

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

Foreword

This document (EN ISO 15753:2006) has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" in collaboration with Technical Committee CEN/TC 307 "Oilseeds, vegetable and animal fats and oils and their by-products - Methods of sampling and analysis", the secretariat of which is held by AFNOR.

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.

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Endorsement notice

The text of ISO 15753:2006 has been approved by CEN as EN ISO 15753:2006 without any modifications.

**Animal and vegetable fats and oils —
Determination of polycyclic aromatic
hydrocarbons**

*Corps gras d'origines animale et végétale — Détermination des
hydrocarbures aromatiques polycycliques*



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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
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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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ISO 15753 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*.

Animal and vegetable fats and oils — Determination of polycyclic aromatic hydrocarbons

1 Scope

This International Standard describes two methods for the determination of 15 polycyclic aromatic hydrocarbons (PAHs) in animal and vegetable fats and oils:

- a general method, and
- a method specific for coconut oil and vegetable oils with short-chain fatty acids.

These methods are not quantitative for the very volatile compounds such as naphthalene, acenaphthene and fluorene. Due to interferences provided by the matrix itself, palm oil and olive pomace oil cannot be analysed using this method.

The quantification limit is 0,2 µg/kg for almost all compounds analysed, except for fluoranthene and benzo(*g,h,i*)perylene where the quantification limit is 0,3 µg/kg, and indeno(1,2,3-*c,d*)pyrene where the quantification limit is 1 µg/kg.

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 661, *Animal and vegetable fats and oils — Preparation of test sample*

3 Terms and definitions

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

3.1

polycyclic aromatic hydrocarbon

PAH

compound that contains two or more condensed (fused) aromatic hydrocarbon rings and the content of which can be determined according to the method specified in this International Standard

NOTE 1 The content is given in micrograms per kilogram.

NOTE 2 In general PAHs are divided into light PAHs with two to four aromatic rings, and heavy PAHs with five or more aromatic rings.

EXAMPLES

Light PAHs include:

naphthalene (CAS RN [91-20-3]), acenaphthene (CAS RN [83-32-9]), acenaphthylene (CAS RN [208-96-8]), fluorene (CAS RN [86-73-7]), anthracene (CAS RN [120-12-7]), phenanthrene (CAS RN [85-01-8]), fluoranthene (CAS RN [206-44-0]), chrysene (CAS RN [218-01-9]), benz(*a*)anthracene (CAS RN [56-55-3]), pyrene (CAS RN [129-00-0]).