

Animal and vegetable fats and oils — Determination of tocopherol and tocotrienol contents by high-performance liquid chromatography

ICS 67.200.10

National foreword

This British Standard is the UK implementation of EN ISO 9936:2006+A1:2011. It is identical to ISO 9936:2006, incorporating amendment 1:2011 and corrigendum July 2008. It supersedes BS EN ISO 9936:2006, which is withdrawn.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1

The UK participation in its preparation was entrusted to Technical Committee AW/307, Oil seeds, animal and vegetable fats and oils and their by-products.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

This British Standard was published under the authority of the Standards Policy and Strategy Committee on 31 May 2006

© BSI 2011

ISBN 978 0 580 71300 2

Amendments/corrigenda issued since publication

Date	Comments
31 January 2010	Implementation of ISO corrigendum July 2008 Corrections made to Table C.2, page 15
30 September 2011	Implementation of ISO amendment 1:2011 with CEN endorsement A1:2011

English Version

Animal and vegetable fats and oils - Determination of tocopherol
and tocotrienol contents by high-performance liquid
chromatography (ISO 9936:2006)

Corps gras d'origines animale et végétale - Détermination
des teneurs en tocophérols et en tocotriénols par
chromatographie en phase liquide à haute performance
(ISO 9936:2006)

Tierische und pflanzliche Fette und Öle - Bestimmung des
Tocopherol- und Tocotrienol-Gehaltes mit
Hochleistungsflüssigchromatographie (ISO 9936:2006)

This European Standard was approved by CEN on 13 April 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

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

BS EN ISO 9936:2006+A1:2011

EN ISO 9936:2006+A1:2011 (E)

Foreword

This document (EN ISO 9936:2006) 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 October 2006, and conflicting national standards shall be withdrawn at the latest by October 2006.

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 9936:2006 has been approved by CEN as EN ISO 9936:2006 without any modifications.

Foreword to amendment A1

This document (EN ISO 9936:2006/A1:2011) has been prepared by Technical Committee ISO/TC 34 "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 Amendment to the European Standard EN ISO 9936:2006 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by February 2012, and conflicting national standards shall be withdrawn at the latest by February 2012.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, 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 the United Kingdom.

Endorsement notice

The text of ISO 9936:2006/Amd 1:2011 has been approved by CEN as a EN ISO 9936:2006/A1:2011 without any modification

INTERNATIONAL STANDARD

**ISO
9936**

Second edition
2006-04-15

Animal and vegetable fats and oils — Determination of tocopherol and tocotrienol contents by high-performance liquid chromatography

*Corps gras d'origines animale et végétale — Détermination des teneurs
en tocophérols et en tocotriénols par chromatographie en phase liquide
à haute performance*



Reference number
ISO 9936:2006(E)

AVA Documents
Document Sharing Hub

Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Principle	1
5 Reagents	2
6 Apparatus	2
7 Sampling	3
8 Preparation of test sample	3
9 Procedure	4
9.1 Preparation of calibration solutions	4
9.2 Optimization of working parameters	5
9.3 Preparation of test solution	5
9.4 Determination	5
10 Expression of results	6
11 Precision	7
11.1 Interlaboratory test	7
11.2 Repeatability.....	7
11.3 Reproducibility.....	7
12 Test report	7
Annex A (informative) Examples of chromatograms	8
Annex B (informative) Saponification	10
Annex C (informative) Results of interlaboratory tests	12
Bibliography	17

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 9936 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*.

This second edition cancels and replaces the first edition (ISO 9936:1997), which has been technically revised.