

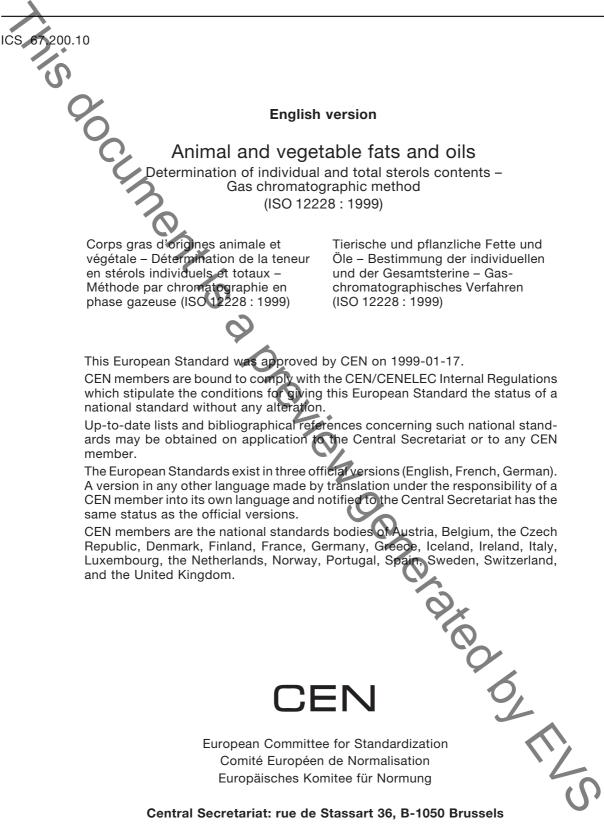


EESTI STANDARDI EESSÕNA NATIONAL FOREWORD

Käesolev Eesti standard EVS-EN ISO 12228:2003 sisaldab Euroopa standardi EN ISO 12228:1999 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 12228:2003 consists of the English text of the European standard EN ISO 12228:1999.
Käesolev dokument on jõustatud 14.08.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.	This document is endorsed on 14.08.2003 with the notification being published in the official publication of the Estonian national standardisation organisation.
Standard on kättesaadav Eesti standardiorganisatsioonist.	The standard is available from Estonian standardisation organisation.
Käsitlusala: This standard specifies a method for the gas chromatographic determination of the content and composition of sterols in animal and vegetable fats and oils	Scope: This standard specifies a method for the gas chromatographic determination of the content and composition of sterols in animal and vegetable fats and oils
ICS 67.200.10	
Võtmesõnad: agricultural products, animal fats, animal oils, chemical analysis and testin, chemical analysis and testing, content, definition, definitions, determination of content, fats, food products, gas chromatography, oils, sterols, vegetable fats, vegetable oils	
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EN ISO 12228

March 1999



EUROPEAN STANDARD

NORME EUROPÉENNE EUROPÄISCHE NORM

Foreword

International Standard

ISO 12228 : 1999 Animal and vegetable fats and oils – Determination of individual and total sterols contents – Gas chromatographic method,

which was prepared by ISO/TC 34 'Agricultural food products' of the International Organization for Standardization, has been adopted by 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, 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a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by September 1999 at the latest.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 12228 : 1999 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to International Standards are listed in Annex ZA (normative).

Contents 1 Scope 2 Normative references 3 Definitions 4 Principle..... 5 Reagents 6 Apparatus 7 Sampling..... 8 Preparation of test sample..... 9 Procedure 10 Expression of results 11 Precision 8 12 Test report 8 Annex A (informative) Interlaboratory test 11 Annex B (informative) Bibliography 18

1 Scope

This International Standard specifies a method for the gas chromatographic determination of the contents and compositions of sterols in animal and vegetable fats and oils.

2 Normative references

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

ISO 661:1989, Animal and vegetable fats and oils - Preparation of test samples.

ISO 3696:1987, Water for analytical laboratory use - Specification and test methods.

3 Definitions

For the purposes of this International Standard, the following definitions apply.

3.1

composition of sterols

composition of individual sterols in the sample, beginning with cholesterol and ending with Δ 7-avenasterol (see table 1) under the conditions specified in this International Standard

NOTE The composition is expressed as peak area, in percent, and normalized to 100 %.

3.2

total sterol content

mass of the sum of all individual sterols, as determined in accordance with the method specified in this International Standard, beginning with cholesterol and ending with Δ 7-avenasterol (see table 1), divided by the mass of the test portion

NOTE The content is expressed in milligrams per 100 g.

4 Principle

A test portion is saponified by boiling under reflux with an ethanolic potassium hydroxide solution. The unsaponifiable matter is isolated by solid-phase extraction on an aluminium oxide column. The aluminium oxide column is used to retain the fatty acid anions; sterols pass through the column. The sterol fraction from the unsaponifiable matter is separated by thin-layer chromatography. The qualitative and quantitative compositions of the sterol fraction are determined by gas chromatography using betulin as an internal standard.

