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Animal and vegetable fats and oils - Determination of monoacylglycerols, diacylglycerols, triacylglycerols and glycerol by high-performance size-exclusion chromatography (HPSEC) (ISO 18395:2005)

Tierische und pflanzliche Fette und Öle - Bestimmung von Monoacylglycerinen, Diacylglycerinen, Triacylglycerinen und Glycerin durch Hochleistungs-Größenausschluss-Chromatographie (HPSEC) (ISO 18395:2005)

Corps gras d'origines animale et végétale - Détermination de la teneur en monoacylglycérides, en diacylglycérides, en triacylglycérides et en glycérol par chromatographie d'exclusion haute performance (CLHP d'exclusion) (ISO 18395:2005)

Ta slovenski standard je istoveten z: EN ISO 18395:2007

ICS:

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SIST EN ISO 18395:2007 **en,fr,de**

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English Version

Animal and vegetable fats and oils - Determination of
monoacylglycerols, diacylglycerols, triacylglycerols and glycerol
by high-performance size-exclusion chromatography (HPSEC)
(ISO 18395:2005)

Corps gras d'origines animale et végétale - Détermination
de la teneur en monoacylglycérides, en diacylglycérides, en
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Tierische und pflanzliche Fette und Öle - Bestimmung von
Monoacylglycerinen, Diacylglycerinen, Triacylglycerinen
und Glycerin durch Hochleistungs-Größenausschluss-
Chromatographie (HPSEC) (ISO 18395:2005)

This European Standard was approved by CEN on 26 July 2007.

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Foreword

The text of ISO 18395:2005 has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 18395:2007 by 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of an identical text or by endorsement, at the latest by February 2008, and conflicting national standards shall be withdrawn at the latest by February 2008.

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The text of ISO 18395:2005 has been approved by CEN as EN ISO 18395:2007 without any modifications.

**Animal and vegetable fats and oils —
Determination of monoacylglycerols,
diacylglycerols, triacylglycerols and
glycerol by high-performance size-
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*Corps gras d'origines animale et végétale — Détermination de la teneur
en monoacylglycérides, en diacylglycérides, en triacylglycérides et en
glycérol par chromatographie liquide d'exclusion (CLHP d'exclusion)*

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Reference number
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Foreword

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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.

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ISO 18395 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 11, *Animal and vegetable fats and oils*.

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Animal and vegetable fats and oils — Determination of monoacylglycerols, diacylglycerols, triacylglycerols and glycerol by high-performance size-exclusion chromatography (HPSEC)

1 Scope

This International Standard specifies a method for the determination of monoacylglycerols, diacylglycerols and triacylglycerols and also free glycerol by high-performance size-exclusion chromatography. It is applicable to products (e.g. emulsifiers) comprising monoacylglycerols and diacylglycerols as main constituents in concentrations >10 %, and to triacylglycerols in a proportion of < 20 %.

The method is not applicable to dairy fats or fats and oils having a wide range of fatty acid chain lengths, since diacylglycerols of short fatty acids have a lower molecular mass than monoacylglycerols of long-chain fatty acids.

The method has restricted applicability to acylglycerol mixtures based on caprylic and capric acids. Here, only the monoacylglycerol content and the free glycerol content can be determined.

NOTE References [1] to [4] give background information.

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2 Normative references

The following referenced document is 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

contents of monoacylglycerols, diacylglycerols, triacylglycerols and glycerol

proportion of monoacylglycerols, diacylglycerols, triacylglycerols and glycerol determined under the conditions of this International Standard

NOTE The contents are expressed as a mass fraction (grams per 100 g) or as a percentage of all peaks.

4 Principle

The sample is dissolved in tetrahydrofuran (THF). The solution obtained is analysed by gel permeation chromatography (GPC) using THF as the mobile phase. The acylglycerols and glycerol are separated according to their molecular size. Detection is by means of a refractive index detector.