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BSI Standards Publication

Animal and vegetable fats and oils — Relative composition of oils and derivatives by capillary gas chromatography (fingerprint method)

bsi.

National foreword

This Published Document is the UK implementation of CEN ISO/TS 22115:2021. It is identical to ISO/TS 22115:2021.

The UK participation in its preparation was entrusted to Technical Committee AW/307, Oilseeds, 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 committee manager.

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Corps gras d'origines animale et végétale - Séparation des classes lipidiques par chromatographie en phase gazeuse sur colonne capillaire (méthode fingerprint) (ISO/TS 22115:2021)

Tierische und pflanzliche Fette und Öle - Relative Zusammensetzung von Ölen und Derivaten mittels Kapillargaschromatographie (Fingerprint-Verfahren) (ISO/TS 22115:2021)

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European foreword

This document (CEN ISO/TS 22115:2021) 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.

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Endorsement notice

The text of ISO/TS 22115:2021 has been approved by CEN as CEN ISO/TS 22115:2021 without any modification.

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Foreword

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This document was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 11, *Animal and vegetable fats and oils,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 307, *Oilseeds, vegetable and animal fats and oils and their by-products — Methods of sampling and analysis,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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TECHNICAL SPECIFICATION **ISO/TS 22115:2021**

Animal and vegetable fats and oils — Relative composition of oils and derivatives by capillary gas chromatography (fingerprint method)

1 Scope

This document specifies a method for the semi-quantitative analysis of oils, fats and oil/fat-related samples (deodistillates).

It is applicable to the screening of oils, fats and oil/fat-related samples to obtain main (e.g. triglycerides) and minor (e.g. sterols, sterol esters, tocopherols, wax esters, fatty alcohols, glycerol) component information in one single analysis. For a truly quantitative analysis of pre-identified compound classes, specific methods are more appropriate.

The method can also be used as a useful qualitative screening tool for the relative comparison of sample compositions.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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

No terms and definitions are listed in this document.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at http://www.electropedia.org/

4 Principle

The hydroxylated compounds are transformed into silyl derivatives. This operation has no effect on the apolar (non-hydroxylated) compounds also present in the sample. The sample prepared is analysed by gas chromatography (GC) on a high-temperature capillary column with a low film thickness, with an on-column injector and flame-ionization detector.

For quantitative purposes, the compounds are quantified in the presence of an internal standard (1,2,3-tridecanoylglycerol) and the response factors are determined from a reference standard from each class.

5 Reagents

WARNING — Attention is drawn to the regulations which specify the handling of hazardous substances. Technical, organizational and personal safety measures shall be followed.

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