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Olive oils and olive-pomace oils — Determination of the 2-glyceryl monopalmitate content

Huiles d'olive et huiles de grignons d'olive — Détermination de la teneur en 2-glycéryl monopalmitate

Reference number
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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).

This second edition cancels and replaces the first edition (ISO 12872:2010), which has been technically revised.

The main changes are as follows:

— the use of iso-octane as an alternative to hexane has been added;

— precision data of the method using iso-octane compared with hexane have been added.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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Introduction

As part of the *Trade standard applying to olive oils and olive-pomace oils*, the International Olive Council (IOC) published COI/T.20/Doc. No 23:2006[6].

COI/T.20/Doc. No 23 was applicable to olive and olive-pomace oils and was used to distinguish between lampante virgin olive oils and crude olive-pomace oils. Olive pomace is the residual paste which still contains a variable amount of water and oil after pressing or centrifuging.

In 2008, the IOC submitted the document to ISO/TC 34/SC 11 for adoption as an International Standard.

In 2017, the IOC published a revision of COI/T.20/Doc. No 23/Rev.1[7], and this revised document is an adoption of the IOC revised method.

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Olive oils and olive-pomace oils — Determination of the 2-glyceryl monopalmitate content

1 Scope

This document specifies a procedure for the determination of the content, as a percentage mass fraction, of 2-glyceryl monopalmitate in olive oils and olive-pomace oils that are liquid at ambient temperature (20 °C).

NOTE This document is based on COI/T.20/Doc. No 23/Rev.1:2017[Z].

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

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

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

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

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

3.1
2-glyceryl monopalmitate content
mass fraction of 2-glyceryl monopalmitate in the monoacylglycerol fraction

Note 1 to entry: This is determined according to the method specified in this document.

Note 2 to entry: The 2-glyceryl monopalmitate content is expressed as a percentage.

4 Principle

The oil, after suitable preparation, is subjected to the action of pancreatic lipase. A partial hydrolysis takes place that is specific for positions 1 and 3 of the triacylglycerol molecule so that 2-monoacylglycerols are obtained as reaction products. The percentage of 2-glyceryl monopalmitate in the monoacylglycerol fraction is determined, after silylation, by capillary gas chromatography.

5 Reagents

WARNING — Technical, organizational and personal safety measures shall be followed.

During the analysis, unless otherwise stated, use only reagents of recognized analytical grade, and distilled or demineralized water or water of equivalent purity.

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