
**Vegetable fats and oils —
Isomeric diacylglycerols —
Determination of relative amounts
of 1,2- and 1,3-diacylglycerols**

*Corps gras d'origine végétale — Diacylglycérols isomériques —
Détermination des teneurs relatives en 1,2- et 1,3-diacylglycérols*



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Foreword

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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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Vegetable fats and oils — Isomeric diacylglycerols — Determination of relative amounts of 1,2- and 1,3-diacylglycerols

1 Scope

This International Standard specifies the determination of the degree of isomerization of diacylglycerols in vegetable fats and oils. 1,2-Diacylglycerols are transformed to the more stable 1,3-isomers during storage or due to acidic catalysed reaction.

The mass fraction of 1,2-diacylglycerols can be used as a quality criterion for vegetable fats and oils.

2 Normative references

The following referenced documents are 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 International Standard, the following terms and definitions apply.

3.1

degree of isomerization

mass fraction of the peak areas of all 1,2-diacylglycerols (C_{32} , C_{34} , C_{36}) relative to the sum of the peaks of all diacylglycerols (C_{32} , C_{34} , C_{36}).

NOTE The mass fraction is expressed as a percentage to one decimal place.

4 Principle

A miniaturized column chromatography on a silica gel column is used to separate the isomeric diacylglycerols as the more polar fraction from the major part of other lipids. The peak areas of 1,2- and 1,3-isomers are determined by gas chromatography after silylation. Only C_{32} -, C_{34} - and C_{36} -diacylglycerols are taken into account.

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.

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