INTERNATIONAL STANDARD

ISO 8292-1

First edition 2008-04-01

Animal and vegetable fats and oils — Determination of solid fat content by pulsed NMR —

Part 1:

Direct method

Corps gras d'origines animale et végétale — Détermination de la teneur en corps gras solides par RMN pulsée —

Partie 1: Méthode directe

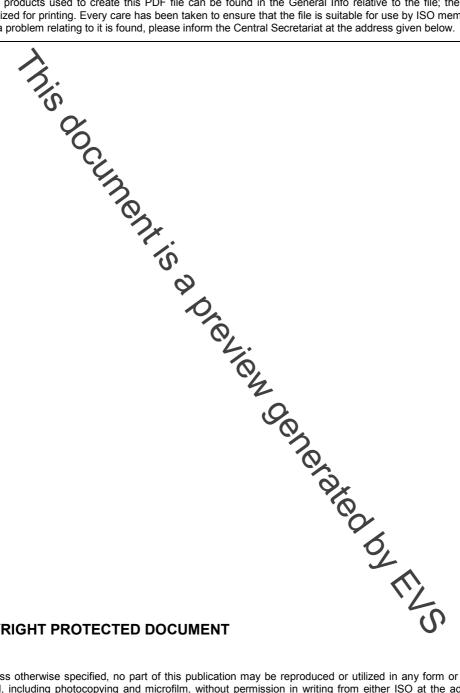


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Published in Switzerland

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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 Maison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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The main task of technical confinitees 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 applying by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 8292-1 was prepared by Technical Computere ISO/TC 34, Food products, Subcommittee SC 11, Animal and vegetable fats and oils.

This part of ISO 8292, together with ISO 8292-2, cancel and replace ISO 8292:1991.

Johners. Which Ochocatology of the Control of the C ISO 8292 consists of the following parts, under the openeral title Animal and vegetable fats and oils — Determination of solid fat content by pulsed NMR:

- Part 1: Direct method
- Part 2: Indirect method

Animal and vegetable fats and oils — Determination of solid fat content by pulsed NMR —

Part 1:

Direct method

1 Scope

This part of ISO 8292 specifies a direct method for the determination of solid fat content in animal and vegetable fats and oils (hereafte designated "fats") using low-resolution pulsed nuclear magnetic resonance (NMR) spectrometry.

Two alternative thermal pre-treatments are specified: one for general purpose fats not exhibiting pronounced polymorphism and which stabilize manip in the β -polymorph; and one for fats similar to cocoa butter which exhibit pronounced polymorphism and stabilize in the β -polymorph. Additional thermal pre-treatments, which may be more suitable for specific purposes are given in an informative annex.

The direct method is easy to carry out and is reproducible, but is not as accurate as the indirect method due to the approximate method of calculation.

NOTE An indirect method is specified in ISO 8292-

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

ISO 8292-2, Animal and vegetable fats and oils — Determination of solid fatcontent by pulsed NMR — Part 2: Indirect method

3 Terms and definitions

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

3.1

solid fat content

SFC

ratio as a percentage of the number of protons in the solid phase to the number of protons in the solid and liquid phase at a specified temperature

NOTE SFC expressed on this basis is taken to be numerically equivalent to the percentage mass fraction of fat in the solid state. No correction is made for the different densities of protons in the solid and liquid phases, because this would require exact knowledge of the composition of the solid and liquid phases of the fat blends at each temperature. Regardless of any other systematic errors, this means that SFC values obtained by this method are about 0,5 % to 1,0 % higher than the true solid fat percentage mass fraction.

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