SLOVENSKI STANDARD
SIST EN ISO 3657:2020

01-julij-2020

Nadomešča:
SIST EN ISO 3657:2013

Živalske in rastlinske maščobe in olja - Določevanje števila umiljenja (ISO 3657:2020)

Animal and vegetable fats and oils - Determination of saponification value (ISO 3657:2020)

Tierische und pflanzliche Fette und Öle - Bestimmung der Verseifungszahl (ISO 3657:2020)

Corps gras d'origines animale et végétale - Détermination de l'indice de saponification (ISO 3657:2020)

Ta slovenski standard je istoveten z: **EN ISO 3657:2020**

ICS:

67.200.10	Rastlinske in živalske maščobe in olja	Animal and vegetable fats and oils

SIST EN ISO 3657:2020 **en**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 3657

April 2020

ICS 67.200.10

Supersedes EN ISO 3657:2013

English Version

Animal and vegetable fats and oils - Determination of saponification value (ISO 3657:2020)

Corps gras d'origines animale et végétale - Détermination de l'indice de saponification (ISO 3657:2020)

Tierische und pflanzliche Fette und Öle - Bestimmung der Verseifungszahl (ISO 3657:2020)

This European Standard was approved by CEN on 14 April 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Contents

Page

European foreword

This document (EN ISO 3657:2020) 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.

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of an identical text or by endorsement, at the latest by October 2020, and conflicting national standards shall be withdrawn at the latest by October 2020.

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

This document supersedes EN ISO 3657:2013.

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Endorsement notice

The text of ISO 3657:2020 has been approved by CEN as EN ISO 3657:2020 without any modification.

INTERNATIONAL STANDARD

ISO 3657

Fifth edition
2020-04

Animal and vegetable fats and oils — Determination of saponification value

Corps gras d'origines animale et végétale — Détermination de l'indice de saponification

Reference number
ISO 3657:2020(E)

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Published in Switzerland

Contents

Page

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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Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 fifth edition cancels and replaces the fourth edition (ISO 3657:2013), of which it constitutes a minor revision. The changes compared with the previous edition are as follows:

— corrects the mistake in the calculation of the C16 TAG molecular weight (B.7.3);

— stipulates using the preferred indicator, alkali blue, to phenolphthalein (5.4 and 5.5) for safety reasons;

— updates the references.

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.

Animal and vegetable fats and oils — Determination of saponification value

1 Scope

This document specifies a method for the determination of the saponification value of animal and vegetable fats and oils. The saponification value is a measure of the free and esterified acids present in fats and fatty acids.

The method is applicable to refined and crude vegetable and animal fats.

If mineral acids are present, the results given by this method are not interpretable unless the mineral acids are determined separately.

The saponification value can also be calculated from fatty acid data obtained by gas chromatography analysis as given in Annex B. For this calculation, it is necessary to be sure that the sample does not contain major impurities or is thermally degraded.

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 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/

3.1
saponification value
I_s
number of milligrams of potassium hydroxide required for the saponification of 1 g of the product tested

4 Principle

The test sample is saponified by boiling under reflux with an excess of ethanolic potassium hydroxide, followed by titration of the excess potassium hydroxide with standard volumetric hydrochloric acid solution.

5 Reagents

Use only reagents of recognized analytical grade, and distilled or demineralized water of equivalent purity.

5.1 Ethanol, volume fraction φ = 95 %.