

Animal and vegetable fats and oils - Determination of melting point in open capillary tubes - Slip point (ISO 6321:2021)

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ICS 67.200.10

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EUROPEAN STANDARD

**EN ISO 6321**

NORME EUROPÉENNE

EUROPÄISCHE NORM

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ICS 67.200.10

Supersedes EN ISO 6321:2002

English Version

**Animal and vegetable fats and oils - Determination of  
melting point in open capillary tubes - Slip point (ISO  
6321:2021)**

Corps gras d'origines animale et végétale -  
Détermination du point de fusion en tube capillaire  
ouvert (ISO 6321:2021)

Tierische und pflanzliche Fette und Öle - Bestimmung  
des Schmelzpunktes in offenen Kapillarröhrchen (ISO  
6321:2021)

This European Standard was approved by CEN on 18 May 2021.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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

**CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels**

## European foreword

This document (EN ISO 6321:2021) 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.

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of an identical text or by endorsement, at the latest by December 2021, and conflicting national standards shall be withdrawn at the latest by December 2021.

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 6321:2002.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

## Endorsement notice

The text of ISO 6321:2021 has been approved by CEN as EN ISO 6321:2021 without any modification.

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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](http://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](http://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 third edition cancels and replaces the second edition (ISO 6321:2002), which has been technically revised.

The main changes compared to the previous edition are as follows:

- the requirement to measure the diameters of each capillary tube has been removed, and
- a footnote stating suggested suppliers of suitable capillary tubes has been included.

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](http://www.iso.org/members.html).

# Animal and vegetable fats and oils — Determination of melting point in open capillary tubes — Slip point

## 1 Scope

This document specifies two methods for the determination of the melting point in open capillary tubes, commonly known as the slip melting point, of animal and vegetable fats and oils (referred to as fats hereinafter).

- Method A is only applicable to animal and vegetable fats which are solid at ambient temperature and which do not exhibit pronounced polymorphism.
- Method B is applicable to all animal and vegetable fats which are solid at ambient temperature and is the method to be used for fats whose polymorphic behaviour is unknown.

For the determination of the slip melting point of palm oil samples the method given in [Annex A](#) shall be used.

NOTE 1 If applied to fats with pronounced polymorphism, method A will give different and less satisfactory results than method B.

NOTE 2 Fats which exhibit pronounced polymorphism are principally cocoa butter and fats containing appreciable quantities of 2-unsaturated, 1,3-saturated triacylglycerols.

## 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 <https://www.electropedia.org/>

### 3.1

#### **slip melting point in open capillary tube**

temperature at which a column of fat in an open capillary tube commences to rise under the conditions specified in this document

## 4 Principle

A capillary tube containing a column of the fat which has been crystallized under controlled conditions is immersed to a specified depth in water, the temperature of which is increased at a specified rate. The temperature at which the column is observed to start rising in the capillary tube is recorded.