



**NSAI**  
Standards

Irish Standard  
I.S. EN ISO 6321:2021

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

**I.S. EN ISO 6321:2021**

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

The National Standards Authority of Ireland (NSAI) produces the following categories of formal documents:

I.S. xxx: Irish Standard — national specification based on the consensus of an expert panel and subject to public consultation.

S.R. xxx: Standard Recommendation — recommendation based on the consensus of an expert panel and subject to public consultation.

SWiFT xxx: A rapidly developed recommendatory document based on the consensus of the participants of an NSAI workshop.

*This document replaces/revises/consolidates the NSAI adoption of the document(s) indicated on the CEN/CENELEC cover/Foreword and the following National document(s):*

*NOTE: The date of any NSAI previous adoption may not match the date of its original CEN/CENELEC document.*

*This document is based on:*

EN ISO 6321:2021

*Published:*

2021-06-23

*This document was published  
under the authority of the NSAI  
and comes into effect on:*

2021-07-12

ICS number:

67.200.10

NOTE: If blank see CEN/CENELEC cover page

NSAI  
1 Swift Square,  
Northwood, Santry  
Dublin 9

T +353 1 807 3800  
F +353 1 807 3838  
E standards@nsai.ie  
W NSAI.ie

Sales:  
T +353 1 857 6730  
F +353 1 857 6729  
W standards.ie

Údarás um Chaighdeáin Náisiúnta na hÉireann

## National Foreword

I.S. EN ISO 6321:2021 is the adopted Irish version of the European Document EN ISO 6321:2021, Animal and vegetable fats and oils - Determination of melting point in open capillary tubes - Slip point (ISO 6321:2021)

This document does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

For relationships with other publications refer to the NSAI web store.

**Compliance with this document does not of itself confer immunity from legal obligations.**

*In line with international standards practice the decimal point is shown as a comma (,) throughout this document.*

This page is intentionally left blank

EUROPEAN STANDARD

EN ISO 6321

NORME EUROPÉENNE

EUROPÄISCHE NORM

June 2021

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.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

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.

CEN members are the national standards bodies of 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 United Kingdom.



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

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

**EN ISO 6321:2021 (E)**

<b>Contents</b>	<b>Page</b>
<b>European foreword.....</b>	<b>3</b>

## **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.

This page is intentionally left blank



# INTERNATIONAL STANDARD

**ISO  
6321**

Third edition  
2021-06

---

---

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

*Corps gras d'origines animale et végétale — Détermination du point  
de fusion en tube capillaire ouvert — Point de glissement*



Reference number  
ISO 6321:2021(E)

© ISO 2021

**ISO 6321:2021(E)**



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2021

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

	Page
<b>Foreword</b> .....	<b>iv</b>
<b>1 Scope</b> .....	<b>1</b>
<b>2 Normative references</b> .....	<b>1</b>
<b>3 Terms and definitions</b> .....	<b>1</b>
<b>4 Principle</b> .....	<b>1</b>
<b>5 Apparatus</b> .....	<b>2</b>
<b>6 Sampling</b> .....	<b>4</b>
<b>7 Preparation of test sample</b> .....	<b>4</b>
<b>8 Procedure</b> .....	<b>5</b>
8.1 Preparation of the capillary tubes for method A .....	5
8.2 Preparation of the capillary tubes for method B .....	5
8.3 Determination .....	5
8.4 Number of determinations .....	6
<b>9 Expression of results</b> .....	<b>6</b>
<b>10 Precision</b> .....	<b>6</b>
10.1 Interlaboratory tests .....	6
10.2 Repeatability .....	6
<b>11 Test report</b> .....	<b>6</b>
<b>Annex A (normative) Method for palm oil samples</b> .....	<b>7</b>
<b>Annex B (informative) Results of interlaboratory tests</b> .....	<b>8</b>
<b>Bibliography</b> .....	<b>11</b>

## ISO 6321:2021(E)

## 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)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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](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.

This is a free preview. Purchase the entire publication at the link below:

[Product Page](#)

- 
- Looking for additional Standards? Visit Intertek Inform Infostore
  - Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation
-