

Rice - Determination of amylose content - Part 2:  
Spectrophotometric routine method without defatting  
procedure and with calibration from rice standards  
(ISO 6647-2:2020)

## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 6647-2:2020 sisaldab Euroopa standardi EN ISO 6647-2:2020 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 6647-2:2020 consists of the English text of the European standard EN ISO 6647-2:2020.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 12.08.2020.	Date of Availability of the European standard is 12.08.2020.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

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English Version

Rice - Determination of amylose content - Part 2:  
Spectrophotometric routine method without defatting  
procedure and with calibration from rice standards (ISO  
6647-2:2020)

Riz - Détermination de la teneur en amylose - Partie 2:  
Méthode spectrophotométrique de routine sans mode  
opératoire de dégraissage et avec étalonnage à l'aide  
d'étalons de riz (ISO 6647-2:2020)

Reis - Bestimmung des Amylosegehalts - Teil 2:  
Routinemethode: Spektrophotometrische  
Routinemethode ohne Entfettungsverfahren und mit  
Kalibrierung nach Reisstandards (ISO 6647-2:2020)

This European Standard was approved by CEN on 18 July 2020.

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EUROPEAN COMMITTEE FOR STANDARDIZATION  
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EUROPÄISCHES KOMITEE FÜR NORMUNG

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## European foreword

This document (EN ISO 6647-2:2020) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 338 "Cereal and cereal products" 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of an identical text or by endorsement, at the latest by February 2021, and conflicting national standards shall be withdrawn at the latest by February 2021.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 6647-2:2015.

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 6647-2:2020 has been approved by CEN as EN ISO 6647-2:2020 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 4, *Cereals and pulses*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 338, *Cereal and cereal products*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This third edition cancels and replaces the second edition (ISO 6647-2:2015), which has been technically revised. The main changes compared with the previous edition are as follows.

- The set of calibration solutions in ISO 6647-2:2015 were made by rice samples analysed by size exclusion chromatography. In this document, the set of calibration solutions are made by rice samples analysed by spectrophotometer UV-VIS, without delipidization.

A list of all parts in the ISO 6647 series can be found on the ISO website.

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).

# Rice — Determination of amylose content —

## Part 2:

## Spectrophotometric routine method without defatting procedure and with calibration from rice standards

### 1 Scope

This document specifies two simplified routine methods for the determination of the amylose mass fraction of milled rice, non-parboiled. The main difference between the two methods is the dispersion procedure: method A specifies hot dispersion, and method B specifies cold dispersion.

Both methods are applicable to rice with an amylose mass fraction higher than 5 %.

**NOTE** These methods describe simplified procedures for the preparation of samples, which are frequently used in routine laboratories. The methods use the same reagents as the reference method (see ISO 6647-1), but omit the defatting step. Rice samples where the amylose mass fraction has been determined by the reference method are used as standards.

### 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 712, *Cereals and cereal products — Determination of moisture content — Reference method*

ISO 6647-1:2020, *Rice — Determination of Amylose content — Reference method — Part 1: Spectrophotometric method with a defatting procedure by methanol and with calibration solutions of potato amylose and waxy rice amylopectin*

ISO 7301, *Rice — Specification*

ISO 8466-1, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6647-1 and ISO 7301 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/>

### 4 Principle

Rice is ground to a very fine flour to break up the endosperm structure in order to aid complete dispersion and gelatinization. A test portion is dispersed in a sodium hydroxide solution. An aliquot portion is taken to which is added an iodine solution. The absorbance, at 720 nm, of the colour complex formed is then determined using a spectrophotometer.