

## SLOVENSKI STANDARD oSIST prEN ISO 20483:2012

01-september-2012

Žito in stročnice - Določevanje dušika in izračun deleža surovih beljakovin - Metoda po Kjeldahlu (ISO/DIS 20483:2012)

Cereals and pulses - Determination of the nitrogen content and calculation of the crude protein content - Kjeldahl method (ISO/DIS 20483:2012)

Getreide und Hülsenfrüchte - Bestimmung des Stickstoffgehaltes und Berechnung des Rohproteingehaltes - Kjeldahl-Verfahren (ISO/DIS 20483:2012)

Céréales et légumineuses - Détermination de la teneur en azote et calcul de la teneur en protéines brutes - Méthode de Kjeldahl (ISO/DIS 20483:2012)

Ta slovenski standard je istoveten z: prEN ISO 20483 rev

ICS:

67.060 Žita, stročnice in proizvodi iz Cereals, pulses and derived

njih products

oSIST prEN ISO 20483:2012 en,fr,de

**oSIST prEN ISO 20483:2012** 

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 20483:2014

https://standards.iteh.ai/catalog/standards/sist/51379318-9c74-4205-86a8-f3a241ecef81/sist-en-iso-20483-2014

## EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

## DRAFT prEN ISO 20483 rev

July 2012

ICS 67.060

Will supersede EN ISO 20483:2006

### **English Version**

## Cereals and pulses - Determination of the nitrogen content and calculation of the crude protein content - Kjeldahl method (ISO/DIS 20483:2012)

Céréales et légumineuses - Détermination de la teneur en azote et calcul de la teneur en protéines brutes - Méthode de Kjeldahl (ISO/DIS 20483:2012)

Getreide und Hülsenfrüchte - Bestimmung des Stickstoffgehaltes und Berechnung des Rohproteingehaltes - Kjeldahl-Verfahren (ISO/DIS 20483:2012)

This draft European Standard is submitted to CEN members for parallel enquiry. It has been drawn up by the Technical Committee CEN/TC 338.

If this draft becomes a European Standard, 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.

This draft European Standard was established by CEN 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, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

**Warning**: This document is not a European Standard. It is distributed for review and comments. It is subject to change without notice and shall not be referred to as a European Standard.



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

Management Centre: Avenue Marnix 17, B-1000 Brussels

## prEN ISO 20483:2012 (E)

| Contents |  |  |
|----------|--|--|
|          |  |  |
| Foreword |  |  |

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 20483:2014
https://standards.iteh.ai/catalog/standards/sist/51379318-9c74-4205-86a8

prEN ISO 20483:2012 (E)

## **Foreword**

This document (prEN ISO 20483:2012) 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 document is currently submitted to the parallel Enquiry.

This document will supersede EN ISO 20483:2006.

### **Endorsement notice**

The text of ISO/DIS 20483:2012 has been approved by CEN as a prEN ISO 20483:2012 without any modification.

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 20483:2014 https://standards.iteh.ai/catalog/standards/sist/51379318-9c74-4205-86a8 f3a241ecef81/sist-en-iso-20483-2014 **oSIST prEN ISO 20483:2012** 

# iTeh STANDARD PREVIEW (standards.iteh.ai)

SIST EN ISO 20483:2014

https://standards.iteh.ai/catalog/standards/sist/51379318-9c74-4205-86a8-f3a241ecef81/sist-en-iso-20483-2014



## **DRAFT INTERNATIONAL STANDARD ISO/DIS 20483**

ISO/TC 34/SC 4 Secretariat: SAC

Voting begins on Voting terminates on

2012-07-05 2012-12-05

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

## Cereals and pulses — Determination of the nitrogen content and calculation of the crude protein content — Kjeldahl method

Céréales et légumineuses — Détermination de la teneur en azote et calcul de la teneur en protéines brutes — Méthode de Kjeldahl

[Revision of first edition (ISO 20483:2006)]

ICS 67.060

## **ISO/CEN PARALLEL PROCESSING**

This draft has been developed within the International Organization for Standardization (ISO), and processed under the ISO-lead mode of collaboration as defined in the Vienna Agreement.

This draft is hereby submitted to the ISO member bodies and to the CEN member bodies for a parallel five-month enquiry.

Should this draft be accepted, a final draft, established on the basis of comments received, will be submitted to a parallel two-month approval vote in ISO and formal vote in CEN.

To expedite distribution, this document is circulated as received from the committee secretariat. ISO Central Secretariat work of editing and text composition will be undertaken at publication stage.

Pour accélérer la distribution, le présent document est distribué tel qu'il est parvenu du secrétariat du comité. Le travail de rédaction et de composition de texte sera effectué au Secrétariat central de l'ISO au stade de publication.

THIS DOCUMENT IS A DRAFT CIRCULATED FOR COMMENT AND APPROVAL. IT IS THEREFORE SUBJECT TO CHANGE AND MAY NOT BE REFERRED TO AS AN INTERNATIONAL STANDARD UNTIL PUBLISHED AS SUCH.

IN ADDITION TO THEIR EVALUATION AS BEING ACCEPTABLE FOR INDUSTRIAL, TECHNOLOGICAL, COMMERCIAL AND USER PURPOSES, DRAFT INTERNATIONAL STANDARDS MAY ON OCCASION HAVE TO BE CONSIDERED IN THE LIGHT OF THEIR POTENTIAL TO BECOME STANDARDS TO WHICH REFERENCE MAY BE MADE IN NATIONAL REGULATIONS.

RECIPIENTS OF THIS DRAFT ARE INVITED TO SUBMIT, WITH THEIR COMMENTS, NOTIFICATION OF ANY RELEVANT PATENT RIGHTS OF WHICH THEY ARE AWARE AND TO PROVIDE SUPPORTING DOCUMENTATION.

**ISO/DIS 20483** 

# iTeh STANDARD PREVIEW (standards.iteh.ai)

<u>SIST EN ISO 20483:2014</u> https://standards.iteh.ai/catalog/standards/sist/51379318-9c74-4205-86a8-

## Copyright notice

This ISO document is a Draft International Standard and is copyright-protected by ISO. Except as permitted under the applicable laws of the user's country, neither this ISO draft nor any extract from it may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, photocopying, recording or otherwise, without prior written permission being secured.

Requests for permission to reproduce should be addressed to either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office Case postale 56 • CH-1211 Geneva 20 Tel. + 41 22 749 01 11 Fax + 41 22 749 09 47 E-mail copyright@iso.org Web www.iso.org

Reproduction may be subject to royalty payments or a licensing agreement.

Violators may be prosecuted.

Page

## Contents

| Forewo       | ord   | iv        |
|--------------|---|-----------|
| 1            | Scope   | 1         |
| 2            | Normative references  | 1         |
| 3            | Terms and definitions   | 1         |
| 4            | Principle   | 2         |
| 5            | Reagents  | 2         |
| 6            | Apparatus   | 3         |
| 7            | Sampling  | 3         |
| 8            | Preparation of test sample  | 3         |
| 9            | Determination of the moisture content   | 4         |
| 10           | Procedure   |           |
| 10.1         | General Test portion  |           |
| 10.2<br>10.3 | Determination   |           |
| 10.3.1       | Digestion   | 4         |
| 10.3.2       | Distillation  | 5         |
| 10.3.3       | Titration   |           |
| 10.4         | Blank test  |           |
| 10.5         | Test with reference material (Check test)   |           |
| 11           | Expression of results halfcatalog/standards/sist/51379318.9674.4205-8688-   | 5         |
| 11.1         | Nitrogen content Ra241ecefX1/sist-en-iso-20483-2014   |           |
| 11.2         | Crude protein content   |           |
| 12           | Precision   |           |
| 12.1<br>12.2 | Interlaboratory test  |           |
| 12.2         | Reproducibility   |           |
| 12.4         | Critical difference   |           |
| 12.4.1       | Comparison of two groups of measurements in one laboratory  |           |
| 12.4.2       | Comparison of two groups of measurements in two laboratories  |           |
| 13           | Test report   | 7         |
| Annex        | A (informative) Results of interlaboratory tests  | 8         |
| Annex        | B (informative) Critical difference and practical application of the repeatability and reproducibility limits to different protein contents | 10        |
| B.1          | Comparison of two groups of measurements in one laboratory  | ۱۱.<br>10 |
| B.2          | Comparison of two groups of measurements in two laboratories  |           |
|              | C (informative) Factors for converting nitrogen content to protein content  |           |
| Bibliod      | raphy   | .13       |
| -            | · ·   |           |

#### **ISO/DIS 20483**

## **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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees 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 approval 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 20483 was prepared by Technical Committee ISO/TC 34, food and food products, Subcommittee SC 4, cereals and pulses.

This second edition cancels and replaces the first edition, which has been technically revised.

SIST EN ISO 20483:2014

https://standards.iteh.ai/catalog/standards/sist/51379318-9c74-4205-86a8-f3a241ecef81/sist-en-iso-20483-2014

## Cereals and pulses — Determination of the nitrogen content and calculation of the crude protein content — Kjeldahl method

WARNING — The use of this standard may involve hazardous materials, operations and equipment. This standard does not purport to address all the safety problems associated with its use. It is the responsibility of the user of this standard to establish appropriate safety practices and determine the applicability of regulatory limitations prior to use.

## 1 Scope

This International Standard specifies a method for the determination of the nitrogen content of cereals, pulses and derived products, according to the Kjeldahl method, and a method for calculating the crude protein content.

The method does not distinguish between protein nitrogen and non-protein nitrogen. If it is important to determine the non-protein nitrogen content, an appropriate method can be applied.

NOTE In certain cases, full recovery of the nitrogen in nitrates and nitrites is not possible by this method.

### 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 712, Cereals and cereal products — Determination of moisture content — Routine reference method

ISO 6540, Maize — Determination of moisture content (on milled grains and on whole grains)

ISO 24557, Pulses - Determination of moisture content - Air oven method

### 3 Terms and definitions

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

#### 3.1

## nitrogen content

quantity of nitrogen determined after application of the procedure described in this International Standard

NOTE It is expressed as mass fraction of dry product, in percent.

### 3.2

### crude protein content

quantity of crude protein obtained from the nitrogen content as determined by applying the method described in this document, calculated by multiplying this content by an appropriate factor depending on the type of cereal or pulse

NOTE It is expressed as mass fraction of dry product, in percent.