SLOVENSKI STANDARD
SIST EN ISO 14637:2007

01-marec-2007

Mleko - Določanje sečnine - Enzimska metoda na podlagi sprememb v pH (referenčna metoda) (ISO 14637:2004)

Milk - Determination of urea content - Enzymatic method using difference in pH (Reference method) (ISO 14637:2004)

Milch - Bestimmung des Harnstoffgehaltes - Enzymatisches Verfahren mit pH-Änderung (Referenzverfahren) (ISO 14637:2004)

Lait - Détermination de la teneur en urée - Méthode enzymatique par mesurage de pH différentiel (Méthode de référence) (ISO 14637:2004)

Ta slovenski standard je istoveten z: **EN ISO 14637:2006**

ICS:

67.100.10	Mleko in predelani mlečni proizvodi	Milk and processed milk products

SIST EN ISO 14637:2007 **en**

EUROPEAN STANDARD

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EUROPÄISCHE NORM

EN ISO 14637

December 2006

ICS 67.100.10

English Version

Milk - Determination of urea content - Enzymatic method using difference in pH (Reference method) (ISO 14637:2004)

Lait - Détermination de la teneur en urée - Méthode enzymatique par mesurage de pH différentiel (Méthode de référence) (ISO 14637:2004)

Milch - Bestimmung des Harnstoffgehaltes - Enzymatisches Verfahren mit pH-Änderung (Referenzverfahren) (ISO 14637:2004)

This European Standard was approved by CEN on 13 November 2006.

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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 Central Secretariat has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
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Foreword

The text of ISO 14637:2004 has been prepared by Technical Committee ISO/TC 34 "Agricultural food products" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 14637:2006 by Technical Committee CEN/TC 302 "Milk and milk products - Methods of sampling and analysis", the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by June 2007, and conflicting national standards shall be withdrawn at the latest by June 2007.

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

Endorsement notice

The text of ISO 14637:2004 has been approved by CEN as EN ISO 14637:2006 without any modifications.

INTERNATIONAL STANDARD

ISO 14637

IDF 195

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Milk — Determination of urea content — Enzymatic method using difference in pH (Reference method)

Lait — Détermination de la teneur en urée — Méthode enzymatique utilisant les fluctuations du pH (Méthode de référence)

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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,

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 committee 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,

International Standard ISO 14637|IDF 195 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*, and the International Dairy Federation (IDF), in collaboration with AOAC International. It is being published jointly by ISO and IDF and separately by AOAC International.

Foreword

IDF (the International Dairy Federation) is a worldwide federation of the dairy sector with a National Committee in every member country, Every National Committee has the right to be represented on the IDF Standing Committees carrying out the technical work, IDF collaborates with ISO and AOAC International in the development of standard methods of analysis and sampling for milk and milk products,

Draft International Standards adopted by the Action Teams and Standing Committees are circulated to the National Committees for voting, Publication as an International Standard requires approval by at least 50% of IDF National Committees casting a vote,

International Standard ISO 14637|IDF 195 was prepared by Technical Committee ISO/TC 34, *Food products*, Subcommittee SC 5, *Milk and milk products*, and the International Dairy Federation (IDF), in collaboration with AOAC International. It is being published jointly by ISO and IDF and separately by AOAC International.

All work was carried out by the Joint ISO/IDF/AOAC Action Team, *Nitrogen compounds*, of the Standing Committee on *Main components of milk*, under the aegis of its project leader, Mr Ph. Trossat (FR).

Milk — Determination of urea content — Enzymatic method using difference in pH (Reference method)

1 Scope

This International Standard specifies an enzymatic method for the determination of the urea content of milk by measurement of the difference in pH.

2 Terms and definitions

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

2.1
urea content
mass fraction of substances determined by the procedure specified in this International Standard

NOTE The urea content is expressed in milligrams per litre.

3 Principle

Urease is added to the test sample to split urea into ammonia and carbon dioxide. At pH 6,7, ammonia immediately hydrolyses thereby releasing hydroxyl ions, and carbon dioxide liberates protons that partly neutralize these hydroxyl ions. The balance between the ammonia and carbon dioxide hydrolysis and the resulting neutralization induces a change in pH. The pH change varies as a function of the urea content of the sample and is measured by using a differential pH analyser.

4 Reagents

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

4.1 Reagents for urea determination.

4.1.1 Buffer solution, pH 6,7.

Dissolve 1,777 g of potassium monohydrogenphosphate (K_2HPO_4), 1,388 g of potassium dihydrogenphosphate (KH_2PO_4), 7,600 g of potassium chloride (KCl), 1,00 g of sodium azide (NaN_3), 0,010 g of acetazolamide (5-acetamido-1,3,4-thiadiazole-2-sulfonamide), 1,040 g of magnesium chloride hexahydrate ($MgCl_2 \cdot 6H_2O$), 2 g of Triton X100, 1 g of Brij 35 and 20 ml of LM1[1)] in a 1 000 ml volumetric flask (5.5). Dilute to the mark with water and mix.

1) This detergent is available from Valetudo S.r.l., BG, Italy, and is an example of a suitable product available commercially. This information is given for the convenience of users of this International Standard and does not constitute an endorsement by ISO or IDF of this product.