Tärklis ja selle derivaadid. Raskmetallide sisaldus. Osa 2: Elavhõbedasisalduse määramine aatomiabsorbtsioonspektroskoopia abil

Starch and derived products - Heavy metals content - Part 2: Determination of mercury content by atomic absorption spectrometry

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 11212-2:2000 sisaldab Euroopa standardi EN ISO 11212-2:1997 ingliskeelset teksti. Käesolev dokument on jõustatud 18.08.2000 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 11212-2:2000 consists of the English text of the European standard EN ISO 11212-2:1997. This document is endorsed on 18.08.2000 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: See standard määrab kindlaks meetodi tärklise, selle derivaatide ja kõrvalproduktide elavhõbedasisalduse määramiseks, kasutades aatomiabsorbtsioonspektroskoopiat koos külmauru genereerimisega.	**Scope:**

ICS 67.180.20

Võtmesõnad: aatomiabsorbtsioonspektromeetriline meetod, elavhõbe, keemiline analüüs, raskmetallid, sisalduse määramine, toidutärklis, tärklised

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Descriptors: Starch, starch derivatives, mercury content, testing.

English version

Starch and derived products – Heavy metals content

Part 2: Determination of mercury content by atomic absorption spectrometry (ISO 11212-2:1997)

Amidons, fécules et produits dérivés – Teneur en métaux lourds – Partie 2: Détermination de la teneur en mercure par spectrométrie d'absorption atomique (ISO 11212-2:1997)

Stärke und Stärkederivate – Schwermetallgehalt – Teil 2: Bestimmung des Quecksilbergehaltes durch Atomabsorptionsspektrometrie (ISO 11212-2:1997)

This European Standard was approved by CEN on 1997-02-28.

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Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist 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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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

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Foreword

International Standard

ISO 11212-2:1997 Starch and derived products – Heavy metals content – Part 2: Determination of mercury content by atomic absorption spectrometry,

which was prepared by ISO/TC 93 'Starch (including derivatives and by-products)' of the International Organization for Standardization, has been adopted by CEN/CS as a European Standard.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by September 1997 at the latest.

In accordance with the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard:

Austria, Belgium, the Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 11212-2:1997 was approved by CEN as a European Standard without any modification.

1 Scope

This part of ISO 11212 specifies a method for the determination of the mercury content of starch, including derivatives and by-products, by atomic absorption spectrometry with cold-vapour generation.

The cold-vapour generators currently available use very different techniques; it is thus impossible to propose a comprehensive method likely to ensure the attainment of satisfactory results on all types of apparatus. Each analyst should therefore optimize the conditions of use of his/her own apparatus on the basis of general or particular instructions.

2 Definition

For the purposes of this part of ISO 11212, the following definition applies.

2.1 mercury content: Quantity of mercury determined in accordance with the conditions specified in this method and expressed as mercury (Hg), in micrograms per kilogram of the product as received.

3 Principle

Wet digestion of the organic matrix. Reduction of mercury (Hg^{2+}) to metallic mercury by hydrogen resulting from the action of sodium borohydride (or tin(II) chloride) on hydrochloric acid. Entrainment of the mercury vapour by a flow of gas and determination of monoatomic mercury vapour by atomic absorption spectrometry in a quartz cell.

Measurement of the absorbance at a wavelength of 253,7 nm.

Determination of the concentration of mercury in the sample by means of a calibration curve.

4 Reagents

Use only reagents of recognized analytical grade and distilled water or water of equivalent purity.

4.1 Nitric acid (ρ_{20} = 1,38 g/ml).

4.2 Hydrogen peroxide, 30 % (*V/V*) solution.