Foodstuffs - Determination of trace elements - Determination of total arsenic by hydride generation atomic absorption spectrometry (HGAAS) after dry ashing

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EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 14546:2005 sisaldab Euroopa standardi EN 14546:2005 ingliskeelset teksti. Käesolev dokument on jõustatud 22.06.2005 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 14546:2005 consists of the English text of the European standard EN 14546:2005. This document is endorsed on 22.06.2005 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies a method for the determination of total arsenic in foodstuffs by hydride generation atomic absorption spectrometry (HGAAS) after dry ashing.	**Scope:** This European Standard specifies a method for the determination of total arsenic in foodstuffs by hydride generation atomic absorption spectrometry (HGAAS) after dry ashing.

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Foodstuffs - Determination of trace elements - Determination of total arsenic by hydride generation atomic absorption spectrometry (HGAAS) after dry ashing

Produits alimentaires - Détermination des éléments traces - Détermination de l'arsenic total par spectrométrie d'absorption atomique par génération d'hydrures (SAAGH) après calcination par voie sèche

Lebensmittel - Bestimmung von Elementspuren - Bestimmung von Gesamtarsen mit Atomabsorptionsspektrometrie-Hydridtechnik (HGAAS) nach Trockenveraschung

This European Standard was approved by CEN on 15 March 2005.

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 Central Secretariat 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 Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 14546:2005) has been prepared by Technical Committee CEN/TC 275 “Food analysis - Horizontal methods”, the secretariat of which is held by DIN.

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 October 2005, and conflicting national standards shall be withdrawn at the latest by October 2005.

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, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies a method for the determination of total arsenic in foodstuffs by hydride generation atomic absorption spectrometry (HGAAS) after dry ashing.

Specific foodstuffs for which European Standards exist are excluded from the scope of this horizontal European Standard. It is the task of the analyst to review if vertical standards exist.

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.

EN 13804, *Foodstuffs – Determination of trace elements – Performance criteria, general considerations and sample preparation.*

3 Principle

The samples treated with nitric acid and ashing aid are evaporated to dryness and then mineralized at 425 °C with a gradual increase in temperature. The ash is dissolved in hydrochloric acid and arsenic is quantified by HGAAS-procedure at the arsenic line at 193,7 nm [1].

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 health and safety practices and determine the applicability of regulatory limitations prior to use.

4 Reagents

4.1 General

The concentration of arsenic in the reagents and water used shall be low enough not to affect results of the determination.

4.2 Hydrochloric acid

4.2.1 Hydrochloric acid, not less than 30 % of approximately ρ (HCl) = 1,15 g/ml.

4.2.2 Diluted hydrochloric acid, c (≈ 6 mol/l).

Dilute 500 ml hydrochloric acid (4.2.1) with water in a proportion of 1+1 parts by volume.