

**Foodstuffs – Determination of trace elements –
Determination of arsenic in seafood by graphite
furnace atomic absorption spectrometry
(GFAAS) after microwave digestion**

Europastandarden EN 14332:2004 gäller som svensk standard. Detta dokument innehåller den officiella engelska versionen av EN 14332:2004.

The European Standard EN 14332:2004 has the status of a Swedish Standard. This document contains the official English version of EN 14332:2004.

Upplysningar om **sakinnehållet** i standarden lämnas av SIS, Swedish Standards Institute, telefon 08 - 555 520 00.

Standarder kan beställas hos SIS Förlag AB som även lämnar **allmänna upplysningar** om svensk och utländsk standard.

Postadress: SIS Förlag AB, 118 80 STOCKHOLM
Telefon: 08 - 555 523 10. *Telefax:* 08 - 555 523 11
E-post: sis.sales@sis.se. *Internet:* www.sis.se

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 14332

July 2004

ICS 67.120.30

English version

Foodstuffs - Determination of trace elements - Determination of arsenic in seafood by graphite furnace atomic absorption spectrometry (GFAAS) after microwave digestion

Produits alimentaires - Dosage des éléments trace - Détermination de l'arsenic dans les aliments d'origine marine par spectrométrie d'absorption atomique à four graphite (GFAAS) après digestion par micro-ondes

Lebensmittel - Bestimmung von Elementspuren - Bestimmung von Arsen in Meeresfrüchten mit Graphitofen-Atomabsorptionsspektrometrie (GFAAS) nach Mikrowellenaufschluss

This European Standard was approved by CEN on 30 April 2004.

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.



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

Management Centre: rue de Stassart, 36 B-1050 Brussels

Contents

Foreword.....	3
1 Scope	4
2 Normative references	4
3 Principle	4
4 Reagents	4
5 Apparatus and equipment	5
6 Procedure	6
7 Calculation.....	8
8 Limit of quantification	8
9 Precision	8
10 Test report	9
Annex A (informative) Results of the interlaboratory tests.....	10
Bibliography	11

Foreword

This document (EN 14332:2004) 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 January 2005, and conflicting national standards shall be withdrawn at the latest by January 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.

EN 14332:2004 (E)

1 Scope

This document specifies a method for the determination of arsenic in seafood by graphite furnace atomic absorption spectrometry (GFAAS) after microwave digestion [1], [2]. The collaborative study has included food having an arsenic content ≥ 2 mg/kg dry matter.

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

EN 13805, *Foodstuffs — Determination of trace elements — Pressure digestion.*

3 Principle

The samples are digested in closed vessels in a microwave oven in a mixture of nitric acid and hydrogen peroxide. The resulting solution is diluted with water, and the arsenic contents are determined by GFAAS using matrix modifiers.

WARNING — The use of this document may involve hazardous materials, operations and equipment. This document does not purport to address all the safety problems associated with its use. It is the responsibility of the user of this document to establish appropriate safety and health 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 shall be low enough not to affect the results of the determination.