

**Water quality - Digestion for the
determination of selected elements in water
- Part 1: Aqua regia digestion**

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selected elements in water - Part 1: Aqua regia
digestion

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15587-1:2002 sisaldab Euroopa standardi EN ISO 15587-1:2002 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 06.08.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN ISO 15587-1:2002 consists of the English text of the European standard EN ISO 15587-1:2002.</p> <p>This document is endorsed on 06.08.2002 with the notification being published in the official publication of the Estonian national standardisation organisation.</p> <p>The standard is available from Estonian standardisation organisation.</p>
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<p>Käsitlusala: This standard specifies a method for extracting trace elements from a water sample using aqua regia as a digestion agent.</p>	<p>Scope: This standard specifies a method for extracting trace elements from a water sample using aqua regia as a digestion agent.</p>
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Võtmesõnad: analysis, aqua regia, chemical analysis and testin, chemical analysis and testing, chemistry of water, content, determination of content, testing, trace elements, water, water practice, water quality, water testing

English version

Water quality

Digestion for the determination of selected
elements in water

Part 1: *Aqua regia* digestion
(ISO 15587-1 : 2002)

Qualité de l'eau – Digestion pour la
détermination de certains éléments
dans l'eau – Partie 1: Digestion à l'eau
régale (ISO 15587-1 : 2002)

Wasserbeschaffenheit – Aufschluss
für die Bestimmung ausgewählter Ele-
mente in Wasser – Teil 1: Königswas-
ser-Aufschluss (ISO 15587-1 : 2002)

This European Standard was approved by CEN on 2002-03-01.

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 Management Centre 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 Management Centre has the same status as the official versions.

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

CEN

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

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

Foreword

International Standard

ISO 15587-1 : 2002 Water quality – Digestion for the determination of selected elements in water – Part 1:
Aqua regia digestion,

which was prepared by ISO/TC 147 'Water quality' of the International Organization for Standardization, has been adopted by Technical Committee CEN/TC 230 'Water analysis', the Secretariat of which is held by DIN, 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 2002 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, Malta, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 15587-1 : 2002 was approved by CEN as a European Standard without any modification.

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WARNING — Persons using this part of ISO 15587 should be familiar with normal laboratory practice. This part of ISO 15587 does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

1 Scope

This part of ISO 15587 specifies a method for extracting trace elements from a water sample using *aqua regia* as a digestion agent. The method is applicable to all types of waters with a suspended solids mass concentration of less than 20 g/l and a mass concentration of total organic carbon (TOC) expressed as carbon of less than 5 g/l.

The *aqua regia* digestion method is empirical and it might not release elements completely. However, for most environmental applications, the result is fit for purpose.

Aqua regia digestion is suitable for the release of: Ag, Al, As, B, Ba, Be, Ca, Cd, Co, Cr, Cu, Fe, Hg, K, Mg, Mn, Mo, Na, Ni, P, Pb, Sb, Se, Sn, Sr, Ti, V, Zn. It is not suitable for the digestion of refractory compounds such as SiO₂, TiO₂ and Al₂O₃. The presence of chloride in the digestion solution may limit the application of analytical techniques.

The method is generic and may be implemented using a wide variety of equipment provided

- the digestion composition is unchanged,
- the digestion temperature is known, and
- the digestion duration is in accordance with this temperature.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 15587. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 15587 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 3696:1987, *Water for analytical laboratory use — Specification and test methods*

ISO 5667-3:1994, *Water quality — Sampling — Part 3: Guidance on the preservation and handling of samples*