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Water quality - Determination of dissolved bromate - Method by liquid chromatography of ions

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN ISO 15061:2003 sisaldab Euroopa standardi EN ISO 15061:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 19.03.2003 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 15061:2003 consists of the English text of the European standard EN ISO 15061:2001.</p> <p>This document is endorsed on 19.03.2003 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: The standard specifies a method for the determination of dissolved bromate in water (e.g. drinking water, raw water, surface water, partially treated water or swimming pool water).</p>	<p>Scope: The standard specifies a method for the determination of dissolved bromate in water (e.g. drinking water, raw water, surface water, partially treated water or swimming pool water).</p>
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ICS 13.060.50

Võtmesõnad: bromates, bromine, chemical analysis and testin, chemical analysis and testing, chromatography, determination of content, inorganic compounds, ion-exchange chromatography, water, water pollution, water quality

ICS 13.060.50

English version

Water quality – Determination of dissolved bromate
Method by liquid chromatography of ions
(ISO 15061 : 2001)

Qualité de l'eau – Dosage du bromate
dissous – Méthode par chromato-
graphie des ions en phase liquide
(ISO 15061 : 2001)

Wasserbeschaffenheit – Bestimmung
von gelöstem Bromat – Verfahren
mittels Ionenchromatographie
(ISO 15061 : 2001)

This European Standard was approved by CEN on 2001-06-28.

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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.

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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 15061 : 2001 Water quality – Determination of dissolved bromate – Method by liquid chromatography of ions,

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 January 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, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 15061 : 2001 was approved by CEN as a European Standard without any modification.

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Introduction

The essential minimum requirements of an ion chromatographic system applied within the scope of this International Standard for the determination of dissolved bromate are given in clause 5.

The diversity of the appropriate and suitable assemblies, and the procedural steps depending on them, permit a general description only.

Further information on the analytical technique can be found in the normative references (clause 2) and the bibliography.

1 Scope

This International Standard specifies a method for the determination of dissolved bromate in water (e.g. drinking water, raw water, surface water, partially treated water or swimming pool water).

Appropriate pretreatment of the sample, for example by elimination of chloride, sulfate, metals, preconcentration or dilution, gives a range of applicability of 0,5 µg/l to 1 000 µg/l dissolved bromate.

The working range is restricted by the ion-exchange capacity of any preconcentration columns used and that of the separator column. Dilution of the sample to the working range may be necessary.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 5667-1:1980, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes*.

ISO 5667-2:1991, *Water quality — Sampling — Part 2: Guidance on sampling techniques*.

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

ISO 8466-1:1990, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*.

ISO 8466-2:1993, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 2: Calibration strategy for non-linear second order calibration functions*.

3 Interferences

3.1 The presence of nitrate, chloride, carbonate and sulfate may affect the capacity of the concentrator column and lead to poor recovery of bromate (9.2.1).

3.2 The presence of chloride, sulfate, carbonate and hydrogen carbonate can cause interference with the determination of bromate (9.2.1). Depending on the column utilized, other ions may interfere; this should be checked.

3.3 Metals present (e.g. barium and silver ions released from sample pretreatment steps) will bind to the resin material of concentrator and separator columns, resulting in a loss of performance. Metal ions may be eliminated with the aid of a metal clean-up column or special exchangers (see Figure 1 and clause 9).