

## **Water quality - Determination of mercury by atomic fluorescence spectrometry**

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## EESTI STANDARDI EESSÕNA

## NATIONAL FOREWORD

<p>Käesolev Eesti standard EVS-EN 13506:2002 sisaldab Euroopa standardi EN 13506:2001 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 16.05.2002 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes.</p> <p>Standard on kättesaadav Eesti standardiorganisatsioonist.</p>	<p>This Estonian standard EVS-EN 13506:2002 consists of the English text of the European standard EN 13506:2001.</p> <p>This document is endorsed on 16.05.2002 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><b>Käsitlusala:</b> The European Standard specifies a method for the determination of mercury in drinking, surface, ground and rain water.</p>	<p><b>Scope:</b> The European Standard specifies a method for the determination of mercury in drinking, surface, ground and rain water.</p>
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**Võtmesõnad:** atomic fluoresc, atomic fluorescence spectrophotometry, determination of content, ground water, mercury, potable water, quality, rainwater, sewage, surface water, testing, tests, water, water quality, water testing

ICS 13.060.50

English version

## Water quality - Determination of mercury by atomic fluorescence spectrometry

Qualité de l'eau - Dosage du mercure par spectrométrie de fluorescence atomique

Wasserbeschaffenheit - Bestimmung von Quecksilber mittels Atomfluoreszenzspektrometrie

This European Standard was approved by CEN on 4 October 2001.

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.

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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, 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

	page
1 Scope .....	4
2 Normative references .....	4
3 Principle .....	5
4 Interferences .....	5
5 Reagents and Standards .....	5
6 Apparatus and instrumentation .....	7
7 Sample collection, preservation and storage .....	8
8 Sample preparation procedure .....	9
9 Instrumental set up .....	9
10 Procedure .....	9
11 Data analysis and calculations .....	10
12 Test report .....	11
13 Precision data .....	12
Annex A (informative) Additional Information .....	13
Annex B (informative) Schematic Block Diagram .....	14
Annex C (informative) Availability of Reagents etc. ....	15
Bibliography .....	16

## Foreword

This European Standard has been prepared by Technical Committee CEN/TC 230 "Water analysis", 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 May 2002, and conflicting national standards shall be withdrawn at the latest by May 2002.

Annexes designated "informative" are only given for information. In this standard, annexes A, B and C are informative.

**WARNING — Persons using this standard should be familiar with normal laboratory practice. This standard 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.**

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

## Introduction

It is absolutely essential that tests conducted to this standard are carried out by suitably qualified staff.

In natural water sources, mercury compounds generally occur in very small concentrations of less than 0,1 µg/l. Higher concentrations may be found, for example, in industrial waste water.

Both inorganic and organic compounds of mercury may be present. Mercury can also accumulate in sediment and sludge.

In order to fully decompose all of the mercury compounds, a digestion procedure is necessary. Digestion can be omitted only if it is certain that the mercury concentration can be measured without this pre-treatment.

## 1 Scope

This European Standard specifies a method for the determination of mercury in drinking, surface, ground and rain water.

NOTE It is permissible, that this standard is also applied to industrial and municipal waste water after an additional digestion step under appropriate conditions.

The potential linear dynamic range is approximately 1 ng/l to 100 µg/l. In practice, the working range is often from 10 ng/l to 10 µg/l.

Samples containing mercury at concentrations higher than the working range can be analysed following appropriate dilution of the sample.

The method detection limit (MDL) will be dependent on the selected operating conditions and calibration range. With high purity reagents a MDL of less than 1 ng/l is obtainable.

The relative standard deviation is typically less than 5 % for concentrations greater than twenty times the method detection limit.

The sensitivity of this method is dependent on the selected operating conditions.

## 2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN 25667-1, *Water quality - Sampling - Part 1: Guidance on the design of sampling programmes* (ISO 5667-1:1980).

EN 25667-2, *Water quality - Sampling - Part 2: Guidance on sampling techniques* (ISO 5667-2:1991).

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

EN ISO 3696, *Water for analytical laboratory use - Specification and test methods* (ISO 3696:1987).