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PEROKSODISULFAADIGA**

**Water quality - Determination of nitrogen - Part 1:
Method using oxidative digestion with peroxodisulfate**

EESTI STANDARDI EESSÕNA**NATIONAL FOREWORD**

See Eesti standard EVS-EN ISO 11905-1:2003 sisaldab Euroopa standardi EN ISO 11905-1:1998 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 11905-1:2003 consists of the English text of the European standard EN ISO 11905-1:1998.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
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Descriptors: Water analysis, nitrogen content.

English version

Water quality

Determination of nitrogen

Part 1: Method using oxidative digestion with peroxodisulfate
(ISO 11905-1 : 1997)

Qualité de l'eau – Dosage de l'azote –
Partie 1: Méthode par minéralisation
oxydante au peroxodisulfate
(ISO 11905-1 : 1997)

Wasserbeschaffenheit – Bestimmung
von Stickstoff – Teil 1: Bestimmung
von Stickstoff nach oxidativem
Aufschluß mit Peroxodisulfat
(ISO 11905-1 : 1997)

This European Standard was approved by CEN on 1998-04-25.

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.

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CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

Foreword

International Standard

ISO 11905-1 : 1997 Water quality – Determination of nitrogen – Part 1: Method using oxidative digestion with peroxodisulfat,

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a national standard, either by publication of an identical text or by endorsement, and conflicting national standards withdrawn, by November 1998 at the latest.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 11905-1 : 1997 was approved by CEN as a European Standard without any modification.

NOTE: Normative references to international publications are listed in Annex ZA (normative).

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INTRODUCTION

This part of ISO 11905 describes the peroxodisulfate oxidation of nitrogen compounds in water to produce nitrate. Specific details of the determination of a continuous flow method with initial reduction of nitrate to nitrite by copperized cadmium are then reported. The procedures referred to in the normative method is the reference method. Annex C gives examples of alternative techniques suitable for the determination of nitrate in the digest solution. While staying within the scope of this part of ISO 11905, it is permissible to use such alternatives only provided that their performance meets or is better than that given in table A.1, when calculated using procedures described in ISO 5725-2, and when the comparison of precision data between this part of ISO 11905 and any alternative technique is carried out using the procedures described in ISO 2854.

All references to nitrogen concentrations are expressed in milligrams of nitrogen per litre of solution (mg/l).

1 Scope

This part of ISO 11905 specifies a method for the determination of nitrogen present in water, in the form of free ammonia, ammonium, nitrite, nitrate and organic nitrogen compounds capable of conversion to nitrate under the oxidative conditions described.

Dissolved nitrogen gas is not determined by this method.

This method is applicable to the analysis of natural fresh water, sea water, drinking water, surface water and treated sewage effluent. It is also applicable to the analysis of sewage and trade wastes in which the amount of organic matter in the test portion can be kept below 40 mg/l, expressed as carbon (C), when measured by Total Organic Carbon (TOC), or 120 mg/l, expressed as oxygen (O₂), when measured by Chemical Oxygen Demand (COD) according to the respective International Standards.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 11905. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO 11905 are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of current valid International Standards.

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

ISO 5725-2:1994, *Accuracy (trueness and precision) of measurement methods and results —*

Part 2: Basic methods for the determination of repeatability and reproducibility of a standard measurement method.

3 Range of detection

Using the maximum test portion specified in 9.1, nitrogen (N) can be determined in the range up to 5 mg/l. Much higher concentrations can be determined using smaller test portions.

Using the maximum test portion, the lower limit of detection, expressed as N, is typically 0,02 mg/l. This depends on the method used to measure the nitrate concentration resulting from the oxidation.

4 Sensitivity

Sensitivity will depend upon the method used to measure the nitrate concentration resulting from the oxidation.