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Water quality - Detection and enumeration of intestinal enterococci in surface and waste water - Part 1: Miniaturized method (Most Probable Number) by inoculation in liquid medium

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EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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| <p>Käesolev Eesti standard EVS-EN ISO 7899-1:2001 sisaldab Euroopa standardi EN ISO 7899-1:1998 ingliskeelset teksti.</p> <p>Käesolev dokument on jõustatud 18.06.2001 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 7899-1:2001 consists of the English text of the European standard EN ISO 7899-1:1998.</p> <p>This document is endorsed on 18.06.2001 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 part of the standard specifies a miniaturized method for the detection and enumeration of major intestinal enterococci in surface and waste water by inoculation in a liquid medium. The method is applicable to all types of surface and waste water, particularly those rich in suspended matter. This method is not suitable for drinking water and any other type of water for which the guideline count is less than 15 per 100 ml.</p> | <p>Scope: This part of the standard specifies a miniaturized method for the detection and enumeration of major intestinal enterococci in surface and waste water by inoculation in a liquid medium. The method is applicable to all types of surface and waste water, particularly those rich in suspended matter. This method is not suitable for drinking water and any other type of water for which the guideline count is less than 15 per 100 ml.</p> |
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ICS 07.100.20

Võtmesõnad: bacteriological quality, counting, detection, enterobacteriaceae, microbiological analysis, quality, sewage, surface water, tests, water, water pollution, water tests

ICS 07.100.20

English version

Water quality

**Detection and enumeration of intestinal enterococci in surface
and waste water**

Part 1: Miniaturized method (Most Probable Number) by inoculation in
liquid medium
(ISO 7899-1 : 1998)

Qualité de l'eau – Recherche et
dénombrement des entérocoques
intestinaux dans les eaux de surface
et résiduelles – Partie 1: Méthode
miniaturisée (nombre le plus proba-
ble) par ensemencement en milieu
liquide (ISO 7899-1 : 1998)

Wasserbeschaffenheit – Nachweis
und Zählung von intestinalen Entero-
kokken in Oberflächenwasser und
Abwasser – Teil 1: Miniaturisiertes
Verfahren durch Animpfen in Flüssig-
medium (MPN-Verfahren)
(ISO 7899-1 : 1998)

This European Standard was approved by CEN on 1998-11-15.

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.

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

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 7899-1 : 1998 Water quality – Detection and enumeration of intestinal enterococci in surface and waste water – Part 1: Miniaturized method (Most Probable Number) by inoculation in liquid medium,

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 May 1999 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 7899-1 : 1998 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

The aim of this part of ISO 7899 is to enumerate the major intestinal enterococci, namely *E. faecalis*, *E. faecium*, *E. durans* and *E. hirae*, which occur frequently in faeces of humans and homeothermic animals. Other faecal *Enterococcus* species, namely *E. avium*, *E. cecorum*, *E. columbae* and *E. gallinarum*, and *Streptococcus bovis/equinus* strains may occasionally be included, but they occur rarely in the environmental samples. Their recovery tends to be low. *Enterococcus casseliflavus* and *E. mundtii* are non-faecal species which, when present in water samples (e.g. because of influence of plant material and some industrial effluents), are enumerated as faecal enterococci. These species and other rare non-faecal species tend to produce yellow pigment on a non-selective medium. The possible interference of non-faecal *Enterococcus* species should therefore be considered in the interpretation of results.

1 Scope

This part of ISO 7899 specifies a miniaturized method for the detection and enumeration of major intestinal enterococci in surface and waste water by inoculation in a liquid medium. The method is applicable to all types of surface and waste waters, particularly those rich in suspended matter.

This method is not suitable for drinking water and any other type of water for which the guideline count is less than 15 per 100 ml.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO 7899. 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 7899 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 currently valid International Standards.

ISO 3951:1989, *Sampling procedures and charts for inspection by variables for percent nonconforming.*

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 8199:1988, *Water quality — General guide to the enumeration of microorganisms by culture.*

ISO/IEC Guide 2:1996, *Standardization and related activities — Vocabulary.*

3 Definitions

For the purposes of this part of ISO 7899, the definitions given in ISO/IEC Guide 2 and the following definition apply.

3.1

intestinal enterococci

microorganisms capable of aerobic growth at 44 °C and of hydrolysing the 4-methylumbelliferyl- β -D-glucoside (MUD), in the presence of thallium acetate, nalidixic acid and 2,3,5-triphenyltetrazolium chloride (TTC), in the liquid medium specified