Vee kvaliteet. Orgaaniliste ühendite eemaldamise ja biolagundatavuse hindamine veekeskkonnas. Aktiivmuda imiteeriv modelleerimiskatse

Water quality - Evaluation of the elimination and biodegradability of organic compounds in an aqueous medium - Activated sludge simulation test

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN ISO 11733:2004 sisaldab Euroopa standardi EN ISO 11733:2004 ingliskeelset teksti. Käesolev dokument on jõustatud 26.10.2004 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN ISO 11733:2004 consists of the English text of the European standard EN ISO 11733:2004. This document is endorsed on 26.10.2004 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This International Standard specifies a method for the determination of the elimination and the biodegradability of organic compounds by aerobic micro-organisms. The conditions described simulate a waste-water treatment plant. Two test systems can be used: activated sludge plants or porous pots. The tests can optionally be performed under conditions of nitrification and denitrification (Annex A) and coupling of the units (Annex B).	**Scope:** This International Standard specifies a method for the determination of the elimination and the biodegradability of organic compounds by aerobic micro-organisms. The conditions described simulate a waste-water treatment plant. Two test systems can be used: activated sludge plants or porous pots. The tests can optionally be performed under conditions of nitrification and denitrification (Annex A) and coupling of the units (Annex B).

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Võtmesõnad: aeroobne bakter, biolagundatavus, bioloogilised testid, kvaliteet, määramine, orgaanilised ühendid, testid, veetestid, vesi

EUROPEAN STANDARD
NORME EUROPÉENNE
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EN ISO 11733

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Supersedes EN ISO 11733 : 1998.

English version

Water quality

Determination of the eliminiation and biodegradability of organic compounds in an aqueous medium

Activated sludge simulation test
(ISO 11733 : 2004)

Qualité de l'eau – Détermination de l'élimination et de la biodégradabilité des composés organiques en milieu aqueux – Essai de simulation des boues activées (ISO 11733 : 2004)

Wasserbeschaffenheit – Bestimmung der Elimination und der biologischen Abbaubarkeit organischer Verbindungen in einem wässrigen Medium – Belebtschlamm-Simulationstest (ISO 11733 : 2004)

This European Standard was approved by CEN on 2004-07-29.

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, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

CEN

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

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Ref. No. EN ISO 11733 : 2004 E

Foreword

International Standard

ISO 11733 : 2004 Water quality – Determination of the eliminiation and biodegradability of organic compounds in an aqueous medium – Activated sludge simulation test,

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 February 2005 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, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland, and the United Kingdom.

Endorsement notice

The text of the International Standard ISO 11733 : 2004 was approved by CEN as a European Standard without any modification.

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WARNING AND SAFETY PRECAUTIONS — Activated sludge and sewage contain potentially pathogenic organisms, therefore appropriate precautions should be taken when handling them. Toxic test compounds and those whose properties are unknown should be handled with care.

1 Scope

This International Standard specifies a method for the determination of the elimination and the biodegradability of organic compounds by aerobic micro-organisms. The conditions described simulate a waste-water treatment plant. Two test systems can be used: activated sludge plants or porous pots. The tests can optionally be performed under conditions of nitrification and denitrification (Annex A) and coupling of the units (Annex B).

The method applies to organic compounds which, under the conditions of the test, are

a) soluble in tap water at the test concentration and not expected to be transformed to insoluble metabolites if biodegradation, in addition to elimination, is determined;

b) poorly water-soluble, but which are satisfactorily dispersible in water and allow detection with suitable analytical means (e.g. organic carbon measurements);

c) non-volatile, or which have a negligible vapour pressure under the test conditions;

d) not inhibitory to the test micro-organisms at the concentration chosen for the test. Inhibitory effects can be determined by using a suitable test method (e.g. ISO 8192[15] or ISO 15522[27]). Compounds inhibitory at concentrations used in this test may be tested at concentrations less than their EC_{20} value, followed by higher practical concentrations after a period of acclimatization.

The method can also be used to measure the biodegradation and elimination of dissolved organic compounds in waste water (also called "test compound" in the method).

If more or different information is required to predict the behaviour of test compounds or waste water in a treatment plant, other degradation tests may be performed. For appropriate use of this method and for alternative biodegradation methods, see ISO/TR 15462 and for general information on biotesting, see ISO 5667-16.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5667-16, *Water quality — Sampling — Part 16: Guidance on biotesting of samples*

ISO 10634, *Water quality — Guidance for the preparation and treatment of poorly water-soluble organic compounds for the subsequent evaluation of their biodegradability in an aqueous medium*

ISO/TR 15462, *Water quality — Selection of tests for biodegradability*