

SLOVENSKI STANDARD
SIST EN ISO 11348-1:2009**01-maj-2009****BUXca Yý U****SIST EN ISO 11348-1:2000**

?U_cj cghj cXY!`8c`c Yj Ub^YnUj]fUby[Ui]b_Uj ncfWj`j cXY`bUcXXUUb^Y
gj YhcVYJ]Vf]c`ZgW Yf]`f`fYg_i g`i a]b]gWbW`VU_hYf]`^L!`%`XY. `AYhcXU`ni dcfUVc
gj YyY`df]dfUj`^Yb] `VU_hYf]`^fIGC`%% (, !%&\$+\$+L

Water quality - Determination of the inhibitory effect of water samples on the light emission of *Vibrio fischeri* (Luminescent bacteria test) - Part 1: Method using freshly prepared bacteria (ISO 11348-1:2007)

ITEH STANDARD PREVIEW
(standards.iteh.ai)

Wasserbeschaffenheit - Bestimmung der Hemmwirkung von Wasserproben auf die Lichtemission von *Vibrio fischeri* (Leuchtbakterientest) - Teil 1: Verfahren mit frisch gezüchteten Bakterien (ISO 11348-1:2007)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

Qualité de l'eau - Détermination de l'effet inhibiteur d'échantillons d'eau sur la luminescence de *Vibrio fischeri* (Essai de bactéries luminescentes) - Partie 1: Méthode utilisant des bactéries fraîchement préparées (ISO 11348-1:2007)

Ta slovenski standard je istoveten z: EN ISO 11348-1:2008**ICS:**

13.060.70 Preiskava bioloških lastnosti vode Examination of biological properties of water

SIST EN ISO 11348-1:2009**en,fr,de**

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11348-1:2009](https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 11348-1

November 2008

ICS 13.060.70

Supersedes EN ISO 11348-1:1998

English Version

Water quality - Determination of the inhibitory effect of water samples on the light emission of *Vibrio fischeri* (Luminescent bacteria test) - Part 1: Method using freshly prepared bacteria (ISO 11348-1:2007)

Qualité de l'eau - Détermination de l'effet inhibiteur d'échantillons d'eau sur la luminescence de *Vibrio fischeri* (Essai de bactéries luminescentes) - Partie 1: Méthode utilisant des bactéries fraîchement préparées (ISO 11348-1:2007)

Wasserbeschaffenheit - Bestimmung der Hemmwirkung von Wasserproben auf die Lichtemission von *Vibrio fischeri* (Leuchtbakterientest) - Teil 1: Verfahren mit frisch gezüchteten Bakterien (ISO 11348-1:2007)

This European Standard was approved by CEN on 29 October 2008.

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 CEN 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 CEN Management Centre has the same status as the official versions.

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e->

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, 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

Foreword.....3

**iTeh STANDARD PREVIEW
(standards.iteh.ai)**

[SIST EN ISO 11348-1:2009](https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

Foreword

The text of ISO 11348-1:2007 has been prepared by Technical Committee ISO/TC 147 "Water quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 11348-1:2008 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 2009, and conflicting national standards shall be withdrawn at the latest by May 2009.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11348-1:1998.

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

iTeh STANDARD PREVIEW (standards.iteh.ai)

Endorsement notice

The text of ISO 11348-1:2007 has been approved by CEN as a EN ISO 11348-1:2008 without any modification.

[SIST EN ISO 11348-1:2009](https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11348-1:2009](https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

INTERNATIONAL
STANDARDISO
11348-1Second edition
2007-12-01

**Water quality — Determination
of the inhibitory effect of water samples
on the light emission of *Vibrio fischeri*
(Luminescent bacteria test) —**

Part 1:

Method using freshly prepared bacteria

iTeh STANDARD PREVIEW

(standards.iteh.ai)
*Qualité de l'eau — Détermination de l'effet inhibiteur d'échantillons
d'eau sur la luminescence de *Vibrio fischeri* (Essai de bactéries
luminescentes) —*

SIST EN ISO 11348-1:2009

Partie 1. Méthode utilisant des bactéries fraîchement préparées[https://standards.iteh.ai/catalog/standards/sist/694a5124-170d-4589-835c-
ed765f756be4/sist-en-iso-11348-1-2009](https://standards.iteh.ai/catalog/standards/sist/694a5124-170d-4589-835c-ed765f756be4/sist-en-iso-11348-1-2009)Reference number
ISO 11348-1:2007(E)

© ISO 2007

ISO 11348-1:2007(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

iTeh STANDARD PREVIEW (standards.iteh.ai)

[SIST EN ISO 11348-1:2009](https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	v
1 Scope	1
2 Normative references	1
3 Principle	2
4 Interferences	2
5 Reagents and materials	2
6 Apparatus	4
7 Sampling and sample pretreatment.....	5
8 Cultivation of luminescent bacteria.....	5
9 Procedure	7
10 Evaluation.....	8
11 Expression of results	10
12 Criteria of validity.....	11
13 Precision	12
14 Test report	12
Annex A (informative) Colour-correction method.....	13
Annex B (informative) Dilution level D – Preparation of the dilution series.....	16
Annex C (informative) Precision data.....	19
Annex D (informative) Testing salt water samples with the luminescent bacteria test with freshly cultured bacteria.....	20
Bibliography	23

ISO 11348-1:2007(E)

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11348-1 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 5, *Biological methods*.

This second edition cancels and replaces the first edition (ISO 11348-1:1998), which has been technically revised.

ISO 11348 consists of the following parts, under the general title *Water quality — Determination of the inhibitory effect of water samples on the light emission of *Vibrio fischeri* (Luminescent bacteria test)*:

- *Part 1: Method using freshly prepared bacteria*
- *Part 2: Method using liquid-dried bacteria*
- *Part 3: Method using freeze-dried bacteria*

Introduction

The measurements specified in ISO 11348 can be carried out using freshly prepared bacteria, as well as freeze-dried or liquid-dried bacterial preparations.

Standardized work carried out by DIN Normenausschuss Wasserwesen and ISO/TC 147/SC 5/WG 1 has shown that, in special cases, these different techniques may deliver different results, especially in the presence of heavy metals.

Such varying sensitivity is caused by differences in media composition used in the preparation of freeze-dried or liquid-dried bacteria. These protective media influence the bioavailability of toxicants and/or the light emission of luminescent bacteria. This means that the origin and type of preparation need to be taken into account when interpreting the results. This may be difficult sometimes, as freeze-dried and liquid-dried bacteria may be obtained from different suppliers. This, in turn, can mean that the composition is not known in detail and therefore cannot be interpreted by the user.

For this reason, in addition to toxicity measurements with liquid-dried bacteria (ISO 11348-2) and freeze-dried bacteria (ISO 11348-3), a procedure with freshly prepared bacteria is described in this part of ISO 11348, the performance of which can be interpreted by the user in every detail.

The laboratories responsible for the results have the opportunity to select the most suitable technique based on expert judgement and information about the water sample to be tested.

THE STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11348-1:2009](https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>

iTeh STANDARD PREVIEW
(standards.iteh.ai)

[SIST EN ISO 11348-1:2009](#)

<https://standards.iteh.ai/catalog/standards/sist/694a3124-170d-4589-835e-ed765f756be4/sist-en-iso-11348-1-2009>