

Water quality — Evaluation of ultimate aerobic biodegradability of organic compounds in aqueous medium — Static test (Zahn-Wellens method)

The European Standard EN ISO 9888:1999 has the status of a
British Standard

ICS 13.060.70

Confirmed July 2008

National foreword

This British Standard is the English language version of EN ISO 9888:1999. It is identical with ISO 9888:1999. It supersedes BS EN 29888:1993 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee EH/3, Water quality, to Subcommittee EH/3/5, Biological methods, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

BS EN ISO 9888 is one of a series of standards on water quality, others of which have been, or will be, published as Sections of BS 6068. This standard has therefore been given the secondary identifier BS 6068-5.13. The various Sections of BS 6068 are comprised within Parts 1 to 7, which, together with Part 0, are listed below.

- Part 0 *Introduction*
- Part 1 *Glossary*
- Part 2 *Physical, chemical and biochemical methods*
- Part 3 *Radiological Methods*
- Part 4 *Microbiological methods*
- Part 5 *Biological methods*
- Part 6 *Sampling*
- Part 7 *Precision and accuracy*

NOTE The tests described in this British Standard should only be carried out by suitably qualified persons with an appropriate level of biological expertise. Standard biological procedures should be followed throughout.

Cross-references

Attention is drawn to the fact that CEN and CENELEC Standards normally include an annex which lists normative references to international publications with their corresponding European publications. The British Standards which implement these international or European publications may be found in the BSI Standards Catalogue under the section entitled “International Standards Correspondence Index”, or by using the “Find” facility of the BSI Standards Electronic Catalogue.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii and iii, a blank page, pages 1 to 11, the annex ZA page, an inside back cover and a back cover.

The BSI copyright notice displayed in this document indicates when the document was last issued.

This British Standard, having been prepared under the direction of the Health and Environment Sector Committee, was published under the authority of the Standards Committee and comes into effect on 15 September 1999

© BSI 09-1999

ISBN 0 580 32760 4

Amendments issued since publication

Amd. No.	Date	Comments

English version

Water quality - Evaluation of ultimate aerobic biodegradability of
organic compounds in aqueous medium - Static test (Zahn-
Wellens method) (ISO 9888:1999)

Qualité de l'eau - Evaluation, en milieu aqueux, de la
biodégradabilité aérobie ultime des composés organiques -
Essai statique (méthode Zahn-Wellens) (ISO 9888:1999)

Wasserbeschaffenheit - Bestimmung der aeroben
biologischen Abbaubarkeit organischer Stoffe im wäßrigen
Medium - Statischer Test (Zahn-Wellens-Test) (ISO
9888:1999)

This European Standard was approved by CEN on 20 May 1999.

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.

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 Central Secretariat 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

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

Foreword

The text of the International Standard ISO 9888:1999 has been prepared by Technical Committee ISO/TC 147 "Water quality" in collaboration with Technical Committee CEN/TC 230 "Water analysis", the secretariat of which is held by DIN.

This European Standard supersedes EN 29888:1993.

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 December 1999, and conflicting national standards shall be withdrawn at the latest by December 1999.

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.

Endorsement notice

The text of the International Standard ISO 9888:1999 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

**ISO
9888**

Second edition
1999-06-01

Water quality — Evaluation of ultimate aerobic biodegradability of organic compounds in aqueous medium — Static test (Zahn-Wellens method)

*Qualité de l'eau — Évaluation, en milieu aqueux, de la biodégradabilité
aérobie ultime des composés organiques — Essai statique
(méthode Zahn-Wellens)*



Contents

1 Scope 1

2 Normative references 1

3 Terms and definitions 2

4 Principle 3

5 Test environment 3

6 Reagents 3

7 Apparatus 5

8 Procedure 5

9 Calculation and expression of results 7

10 Validity of results 8

11 Test report 8

Annex A (informative) Example of a biodegradation curve 10

Bibliography 11

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 3.

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.

International Standard ISO 9888 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 9888:1991), which has been technically revised.

Annex A of this International Standard is for information only.