



BSI Standards Publication

# Water quality — Enumeration of *Escherichia coli* and coliform bacteria

Part 1: Membrane filtration method for waters with low bacterial background flora (ISO 9308-1:2014)

## National foreword

This British Standard is the UK implementation of EN ISO 9308-1:2014+A1:2017. It is identical to ISO 9308-1:2014, incorporating amendment 1:2016. It supersedes BS EN ISO 9308-1:2014 which is withdrawn.

The UK committee voted against this standard on the grounds that the method is insufficiently selective because it enables too many background organisms to grow making reading of the plates problematic. This method is only useful for water with very low bacterial counts. It is the opinion of the UK committee that more appropriate membrane filtration methods are available for the monitoring of drinking water, including for regulatory purposes.

These methods, approved by the Drinking Water Inspectorate, are described in *The Microbiology of Drinking Water (2009) - Part 4 - Methods for the isolation and enumeration of coliform bacteria and Escherichia coli (including E. coli O157:H7)* (<https://www.gov.uk/government/publications/standing-committee-of-analysts-sca-blue-books>).

Alternatively BS ISO 9308-2:2012 *Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 2: Most probable number method* may also be used.

The start and finish of text introduced or altered by amendment is indicated in the text by tags. Tags indicating changes to ISO text carry the number of the ISO amendment. For example, text altered by ISO amendment 1 is indicated by A1 A1.

The UK participation in its preparation was entrusted by Technical Committee EH/3, Water quality, to Subcommittee EH/3/4, Microbiological methods.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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**Compliance with a British Standard cannot confer immunity from legal obligations.**

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## Amendments/corrigenda issued since publication

| Date             | Text affected                                                       |
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| 28 February 2017 | Implementation of ISO amendment 1:2016 with CEN endorsement A1:2017 |

English Version

Water quality - Enumeration of Escherichia coli and coliform bacteria - Part 1: Membrane filtration method for waters with low bacterial background flora (ISO 9308-1:2014)

Qualité de l'eau - Dénombrement des Escherichia coli et des bactéries coliformes - Partie 1: Méthode par filtration sur membrane pour les eaux à faible teneur en bactéries (ISO 9308-1:2014)

Wasserbeschaffenheit - Zählung von Escherichia coli und coliformen Bakterien - Teil 1: Membranfiltrationsverfahren für Wässer mit niedriger Begleitflora (ISO 9308-1:2014)

This European Standard was approved by CEN on 24 August 2014.

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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-CENELEC Management Centre has the same status as the official versions.

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## Foreword

This document (EN ISO 9308-1:2014) 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 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by March 2015, and conflicting national standards shall be withdrawn at the latest by March 2015.

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 9308-1:2000.

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

### Endorsement notice

The text of ISO 9308-1:2014 has been approved by CEN as EN ISO 9308-1:2014 without any modification.

## Foreword to amendment A1

This document (EN ISO 9308-1:2014/A1:2017) 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 Amendment to the European Standard EN ISO 9308-1:2014 shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 2017, and conflicting national standards shall be withdrawn at the latest by July 2017.

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.

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### Endorsement notice

The text of ISO 9308-1:2014/Amd 1:2016 has been approved by CEN as EN ISO 9308-1:2014/A1:2017 without any modification.

# Contents

Page

|                                                                                             |           |
|---------------------------------------------------------------------------------------------|-----------|
| <b>Foreword</b> .....                                                                       | <b>iv</b> |
| <b>Introduction</b> .....                                                                   | <b>v</b>  |
| <b>1 Scope</b> .....                                                                        | <b>1</b>  |
| <b>2 Normative references</b> .....                                                         | <b>1</b>  |
| <b>3 Terms and definitions</b> .....                                                        | <b>1</b>  |
| <b>4 Principle</b> .....                                                                    | <b>2</b>  |
| <b>5 Apparatus and glassware</b> .....                                                      | <b>2</b>  |
| <b>6 Culture media and reagents</b> .....                                                   | <b>2</b>  |
| <b>7 Sampling</b> .....                                                                     | <b>3</b>  |
| <b>8 Procedure</b> .....                                                                    | <b>3</b>  |
| 8.1 Preparation of the sample.....                                                          | 3         |
| 8.2 Filtration.....                                                                         | 3         |
| 8.3 Incubation and differentiation.....                                                     | 3         |
| <b>9 Expression of results</b> .....                                                        | <b>4</b>  |
| <b>10 Test report</b> .....                                                                 | <b>4</b>  |
| <b>11 Quality assurance</b> .....                                                           | <b>4</b>  |
| 11.1 General.....                                                                           | 4         |
| 11.2 Performance testing of Chromogenic Coliform Agar (CCA).....                            | 4         |
| 11.3 Performance testing of oxidase test.....                                               | 5         |
| <b>Annex A (informative) Further microbiological information on coliform bacteria</b> ..... | <b>6</b>  |
| <b>Annex B (normative) Composition and preparation of culture media and reagents</b> .....  | <b>7</b>  |
| <b>Annex C (informative) Performance characteristics</b> .....                              | <b>9</b>  |
| <b>Bibliography</b> .....                                                                   | <b>10</b> |

## 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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 147, *Water quality*, Subcommittee SC 4, *Microbiological methods*.

This third edition cancels and replaces the second edition (ISO 9308-1:2000), which has been technically revised.

It also incorporates the Corrigendum ISO 9308-1:2000/Cor.1:2007.

ISO 9308 consists of the following parts, under the general title *Water quality — Enumeration of Escherichia coli and coliform bacteria*:

- *Part 1: Membrane filtration method for waters with low bacterial background flora*
- *Part 2: Most probable number method*
- *Part 3: Miniaturized method (Most Probable Number) for the detection and enumeration of E. coli in surface and waste water*

## Introduction

The presence and extent of faecal pollution is an important factor in assessing the quality of water and the risk to human health from infection. Examination of water samples for the presence of *Escherichia coli* (*E. coli*), which normally inhabits the bowel of man and other warm-blooded animals, provides an indication of such pollution. Examination for coliform bacteria can be more difficult to interpret because some coliform bacteria live in soil and surface fresh water and are not always intestinal. Therefore, the presence of coliform bacteria, although not a proof of faecal contamination, may indicate failure in treatment, storage, or distribution.