



NSAI
Standards

Irish Standard
I.S. EN ISO 9308-1:2014&A1:2017

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)

I.S. EN ISO 9308-1:2014&A1:2017

Incorporating amendments/corrigenda/National Annexes issued since publication:

EN ISO 9308-1:2014/A1:2017

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National Foreword

I.S. EN ISO 9308-1:2014&A1:2017 is the adopted Irish version of the European Document EN ISO 9308-1:2014, 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)

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EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 9308-1:2014/A1

January 2017

ICS 07.100.20

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/Amd 1:2016)**

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/Amd 1:2016)

Wasserbeschaffenheit Zählung von Escherichia coli
und coliformen Bakterien Teil 1:
Membranfiltrationsverfahren für Wässer mit niedriger
Begleitflora (ISO 9308-1:2014/Amd 1:2016)

This amendment A1 modifies the European Standard EN ISO 9308-1:2014; it was approved by CEN on 18 January 2017.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for inclusion of this amendment into the relevant national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This amendment 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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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 9308-1:2014/A1:2017 (E)

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European foreword

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.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN ISO 9308-1

September 2014

ICS 07.100.20

Supersedes EN ISO 9308-1:2000

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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CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

EN ISO 9308-1:2014 (E)

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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.

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Endorsement notice

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

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INTERNATIONAL STANDARD

**ISO
9308-1**

Third edition
2014-09-15

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

Part 1: Membrane filtration method for waters with low bacterial background flora

*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*



Reference number
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ISO 9308-1:2014(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.

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).

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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.

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

Part 1:

Membrane filtration method for waters with low bacterial background flora

WARNING — Persons using this document should be familiar with normal laboratory practice. This document does not purport to address all of the safety problems, if any, associated with its use. It is the responsibility of the user to establish appropriate safety and health practices and to ensure compliance with any national regulatory conditions.

IMPORTANT — It is absolutely essential that tests conducted in accordance with this document be carried out by suitably qualified staff.

1 Scope

This part of ISO 9308 specifies a method for the enumeration of *Escherichia coli* (*E. coli*) and coliform bacteria. The method is based on membrane filtration, subsequent culture on a chromogenic coliform agar medium, and calculation of the number of target organisms in the sample. Due to the low selectivity of the differential agar medium, background growth can interfere with the reliable enumeration of *E. coli* and coliform bacteria, for example, in surface waters or shallow well waters. This method is not suitable for these types of water.

This part of ISO 9308 is especially suitable for waters with low bacterial numbers that will cause less than 100 total colonies on chromogenic coliform agar (CCA). These may be drinking water, disinfected pool water, or finished water from drinking water treatment plants.

Some strains of *E. coli* which are β -D-glucuronidase negative, such as *Escherichia coli* O157, will not be detected as *E. coli*. As they are β -D-galactosidase positive, they will appear as coliform bacteria on this chromogenic agar.

2 Normative references

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

ISO 3696, *Water for analytical laboratory use — Specification and test methods*

ISO 7704, *Water quality — Evaluation of membrane filters used for microbiological analyses*

ISO 8199, *Water quality — General guidance on the enumeration of micro-organisms by culture*

ISO 11133, *Microbiology of food, animal feed and water — Preparation, production, storage and performance testing of culture media*

ISO 19458, *Water quality — Sampling for microbiological analysis*

3 Terms and definitions

For the purpose of this document, the definitions given in ISO/IEC Guide 2 and the following apply.

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