
**Water quality — Detection and
enumeration of thermotolerant
Campylobacter species**

*Qualité de l'eau — Recherche et dénombrement d'espèces
thermotolérantes du genre Campylobacter*



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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 17995 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 4, *Microbiological methods*.

Introduction

Campylobacter jejuni subsp. *jejuni* and *Campylobacter coli* are common causes of intestinal infections in humans. *Campylobacter upsaliensis* may be of like importance. *Campylobacter lari* is less frequently associated with human infections. The vehicles for campylobacter infections are usually food, farm animals, pets and person-to-person contact, but water is also important.

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WARNING — Persons using this International Standard should be familiar with normal laboratory practice. This standard 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 International Standard be carried out by suitably trained staff.

1 Scope

This International Standard specifies a method for the detection and semiquantitative enumeration of thermotolerant *Campylobacter* species. The method can be applied to all kinds of filterable waters.

NOTE 1 The method can also be used as a presence/absence test for *Campylobacter* species in a specified sample volume.

NOTE 2 A more quantitative result can be obtained using a most probable number (MPN) set-up (see ISO 8199).

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 3696:1987, *Water for analytical laboratory use — Specification and test methods*

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

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

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

thermotolerant *Campylobacter* species

bacteria retained on filters during the filtration described in 8.2, multiplying during the selective enrichment described in 8.3, forming typical colonies during incubation at elevated temperatures on the selective medium described in 8.4, forming no visible colonies during incubation in air under the conditions specified in 8.6, being highly motile, slender rods with spiral morphology and a motility characterized by darting or corkscrew-like movements.

NOTE 1 Thermotolerant *Campylobacter* species of relevance in human infections include *Campylobacter jejuni* subsp. *jejuni* (hereafter referred to as *C. jejuni*), *C. coli*, *C. lari* and possibly *C. upsaliensis*.