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STN	**Kvalita vody** **Detekcia a kvantitatívne stanovenie termotolerantných baktérií rodu *Campylobacter***	**STN** **ISO 17995** 75 7842

Water quality
Detection and enumeration of thermotolerant *Campylobacter spp*

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

Wasserqualität
Nachweis und Zählung von thermotoleranten *Campylobacter spp*

Táto norma obsahuje anglickú verziu ISO 17995: 2019.

This standard includes the English version of ISO 17995: 2019.

Nahradenie predchádzajúcich noriem

Táto norma nahrádza STN ISO 17995 z mája 2009 v celom rozsahu.

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Anotácia

Tento dokument špecifikuje metódu detekcie, semikvantitatívneho a kvantitatívneho (MPN) stanovenia termotolerantných baktérií rodu *Campylobacter.* Metódu možno použiť na všetky typy vôd vrátane pitnej vody, podzemnej vody, sladkej aj slanej povrchovej vody, vody z bazénov, odpadovej vody, sedimentov. Táto metóda sa môže použiť na detekciu druhov rodu *Campylobacter* v špecifikovanom objeme vzorky. Vzorky s malým zákalom sa môžu po filtrácii cez membránový filter použiť na kvalitatívne, semikvantitatívne alebo kvantitatívne stanovenie. Vzorky vody s vysokým zákalom, napríklad vzorky odpadovej vody a sedimentov, sa analyzujú použitím rovnakej kvalitatívnej, semikvantitatívnej alebo kvantitatívnej metódy po priamom naočkovaní do fliaš alebo skúmaviek. Sedimenty sa môžu suspendovať vo vhodnom riedicom roztoku alebo naočkovať priamo do tekutého média na množenie.

Vypracovanie normy

Spracovateľ: Úrad pre normalizáciu, metrológiu a skúšobníctvo SR, Bratislava

Technická komisia: TK 27 Kvalita a ochrana vody

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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.

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).

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).

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

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

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

This second edition cancels and replaces the first edition (ISO 17995:2005), which has been technically revised. The main changes compared to the previous edition are as follows:

— the inclusion of direct inoculation of enrichment broths in addition to membrane filtration with additional information about sample processing.

— methods for the speciation of *Campylobacter*.

— performance testing for the quality assurance of culture media has been added to Annex D.

— performance characteristics of the method have been added as an Annex E.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The thermotolerant *Campylobacter* species are not thought to propagate as free living but are zoonotic pathogenic bacteria of mammals and birds and which cause disease in humans. *Campylobacter jejuni* subsp. *jejuni* and *Campylobacter coli* are common causes of intestinal infections in humans. *Campylobacter upsaliensis* is found mainly in cats and dogs and is of minor importance for human infections. *Campylobacter lari* is less frequently associated with human infections. *Campylobacter* infections give rise to a flu-like illness with malaise, fever and myalgia followed by diarrhoea. The vehicles for *Campylobacter* infections are usually food, farm animals, pets and person-to-person contact; water is also important. They can be isolated from waters contaminated with human or animal faeces such as wastewater and surface waters. The bacteria have been demonstrated to survive within amoebae. Outbreaks of campylobacteriosis have been reported in relation to the use of contaminated drinking water and sporadic cases from recreational water use.

INTERNATIONAL STANDARD ISO 17995:2019(E)

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

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.

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

1 Scope

This document specifies a method for the detection, semi-quantitative and quantitative (MPN) enumeration of thermotolerant *Campylobacter* species.

The method can be applied to all kinds of waters including: drinking water, ground water and well water, fresh, brackish and saline surface water, swimming pools, spa and hydrotherapy pools, recreational waters, agricultural waters and runoff, untreated and treated wastewater and also sand and other sediments.

This method can be used for the detection of *Campylobacter* species in a specified sample volume. Clean water samples with low turbidity can be membrane filtered for either a qualitative method, semi-quantitative or quantitative (MPN) method. Water samples with higher turbidity, such as primary and secondary wastewater effluents and sediments, are analysed using the same qualitative, semi-quantitative or quantitative MPN method by direct inoculation of material into bottles or tubes. Sediments can be suspended in a suitable diluent or inoculated directly into enrichment broths.

Users wishing to employ this method are expected to verify its performance for the particular matrix under their own laboratory conditions.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 8199, *Water quality — General requirements and guidance for microbiological examinations 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*