

(PREVIEW)

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## ***Indian Standard***

# **WATER QUALITY — DETECTION AND ENUMERATION OF *Escherichia coli* AND COLIFORM BACTERIA — MEMBRANE FILTRATION METHOD**

### **1 Scope**

This part of ISO 9308 describes a reference method (Standard Test) for the detection and enumeration of *Escherichia coli* and coliform bacteria in water for human consumption. The Standard Test is based on membrane filtration, subsequent culture on a differential agar medium and calculation of the number of target organisms in the sample.

The Standard Test has a low selectivity, allowing the detection of injured bacteria. Due to the low selectivity, background growth can interfere with the reliable enumeration of coliform bacteria and *E. coli*, for example in some drinking waters, like shallow well waters, that have not been disinfected and yield a high background growth. This part of ISO 9308 is therefore especially suitable for disinfected water and other drinking waters of low bacterial numbers.

This part of ISO 9308 includes a rapid method (Rapid Test) for the detection of *E. coli* only within 24 h in water for human consumption, which can be useful in special cases when information is needed quickly. The Rapid Test is based on membrane filtration, subsequent culture under selective conditions and calculation of the number of *E. coli* in the sample.

Standard and Rapid Tests described in this part of ISO 9308 are applicable to other kinds of water provided that suspended matter or background flora does not interfere with filtration, culture and counting.

### **2 Normative references**

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 9308. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO 9308 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/IEC Guide 2, *Standardization and related activities — General vocabulary*.

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

ISO 5667-1 : 1980, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes*.

ISO 5667-2 : 1991, *Water quality — Sampling — Part 2: Guidance on sampling techniques.*

ISO 5667-3 : 1994, *Water quality — Sampling — Part 3: Guidance on the preservation and handling of samples.*

ISO 6887-1 : 1999, *Microbiology of food and animal/feeding stuffs — Preparation of test samples, initial suspension and decimal dilutions for microbiological examination — Part 1: General rules for the preparation of the initial suspension and decimal dilutions.*

ISO 8199 : 1988, *Water quality — General guide to the enumeration of micro-organisms by culture.*