
**Water quality — Detection and enumeration
of bacteriophages —**

Part 4:

**Enumeration of bacteriophages infecting
*Bacteroides fragilis***

Qualité de l'eau — Détection et dénombrement des bactériophages —

Partie 4: Dénombrement des bactériophages infectant Bacteroides fragilis



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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 3.

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 part of ISO 10705 may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 10705-4 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 4, *Microbiological methods*.

ISO 10705 consists of the following parts, under the general title *Water quality — Detection and enumeration of bacteriophages*:

- *Part 1: Enumeration of F-specific RNA bacteriophages*
- *Part 2: Enumeration of somatic coliphages*
- *Part 3: Validation of methods for concentration of bacteriophages from water*
- *Part 4: Enumeration of bacteriophages infecting Bacteroides fragilis*

Annexes A, B, C and D of this part of ISO 10705 are for information only.

Water quality — Detection and enumeration of bacteriophages —

Part 4: Enumeration of bacteriophages infecting *Bacteroides fragilis*

1 Scope

This part of ISO 10705 specifies a method for the detection and enumeration of bacteriophages infecting *Bacteroides fragilis* by incubating the sample with an appropriate host-strain. The method is applicable to all kinds of water, sediments and sludge extracts, where necessary after dilution. In the case of low phage numbers, a pre-concentration step may be necessary for which a separate International Standard has been developed. The method is also applicable to shellfish extracts.

NOTE It is desirable for International Standards to be adopted as widely as possible. This part of ISO 10705 includes reference to alternative procedures which obviate the need for expensive materials or equipment which may not be readily available in developing countries. Use of these alternatives will not affect the performance of this method.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO 10705. 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 10705 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 3696, *Water for analytical laboratory use — Specification and test methods*

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

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

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

ISO 6887-1, *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, *Water quality — General guide to the enumeration of micro-organisms by culture*

3 Term and definition

For the purposes of this part of ISO 10705, the following term and definition applies.

3.1

bacteriophage infecting *Bacteroides fragilis*

bacterial virus which is capable of infecting selected *Bacteroides fragilis* host strains by attachment to the bacterial cell wall as the first step of the infectious process

NOTE 1 Such bacteriophages produce visible plaques (clearance zones) in a confluent lawn of host bacteria grown under appropriate culture conditions.