INTERNATIONAL STANDARD

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Water quality — Detection of *Salmonella* spp.

Qualité de l'eau — Recherche de Salmonella spp.

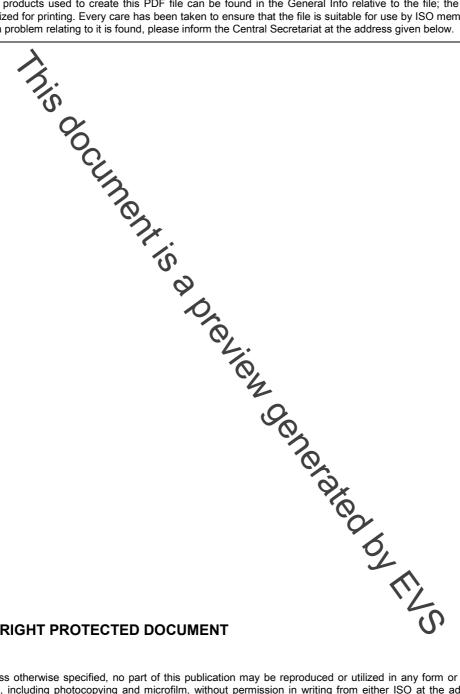


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Foreword

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 Maison 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.

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ISO 19250 was prepared by Technical Committee ISO/TC 147, Water quality, Subcommittee SC 4, Microbiological methods.

This edition cancels and replaces ISO 6340:1995,

Introduction

Salmonella species are bacteria which are widely distributed all over the world. They are usually classified as pathogens, although their virulence and pathogenesis vary widely. The natural hosts of Salmonella include humans, agricultural and domestic livestock, and wild animals including birds. Humans and animals can excrete these bacteria while carrying them asymptomatically as well as during disease. It is therefore impossible to eliminate them from the environment. Following the infection of humans, the transmission of Salmonella can cause severe disease.

Since water is a recognized vehicle of infection, the presence or absence of *Salmonella* is monitored in water where there is perceived to be a risk of infection. *Salmonella* can be present in all types of domestic and agricultural waste water, treshwaters, including ground and drinking waters, as well as sea water.

agricultural waste water, eshwaters, including ground and drinking waters, as well as sea water.

The detection of Salmonella in water usually requires a concentration step. Since Salmonella cells can be present in low numbers and indued in the aqueous environment, their detection in water usually requires a pre-enrichment step.

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Water quality — Detection of Salmonella spp.

WARNING — In order to safeguard the health of laboratory personnel, it is essential that tests for detecting Salmonella, and especially S. enterica subsp. enterica ser. Typhi (Salmonella ser. Typhi) and S. enterica subsp. enterica ser. Paratyphi (Salmonella ser. Paratyphi), be undertaken only in properly equipped laboratories, under the control of a skilled microbiologist, and that great care be taken in the disposal of all incurated materials.

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 according to this International Standard be carried out by suitably trained staff.

1 Scope

This International Standard specifies a period for the detection of *Salmonella* spp. (presumptive or confirmed) in water samples. It is possible that, the epidemiological purposes or during outbreak investigations, other media are also required.

WARNING — It is possible that the method does not recover all Salmonella ser. Typhi and ser. Paratyphi.

NOTE For a semi-quantitative approach, most probable number (MPN) tests can be performed using appropriate sample volumes. For these cases, the volume of the buffered peptone water is adjusted accordingly.

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 6579, Microbiology of food and animal feeding stuffs — Horizontal method for the detection of Salmonella spp.

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 7218, Microbiology of food and animal feeding stuffs — General requirements and guidance for microbiological examinations

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 19458, Water quality — Sampling for microbiological analysis