

**Vee kvaliteet. Proovivõtt mikrobioloogilisteks  
uuringuteks**

**Water quality - Sampling for microbiological analysis**

## EESTI STANDARDI EESSÕNA

See Eesti standard EVS-EN ISO 19458:2006 sisaldab Euroopa standardi EN ISO 19458:2006 ingliskeelset teksti.

Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.

Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.08.2006.

Standard on kättesaadav Eesti Standardikeskusest.

## NATIONAL FOREWORD

This Estonian standard EVS-EN ISO 19458:2006 consists of the English text of the European standard EN ISO 19458:2006.

This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.

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The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile [standardiosakond@evs.ee](mailto:standardiosakond@evs.ee).

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English Version

**Water quality - Sampling for microbiological analysis (ISO  
19458:2006)**

Qualité de l'eau - Échantillonnage pour analyse  
microbiologique (ISO 19458:2006)

Wasserbeschaffenheit - Probenahme für mikrobiologische  
Untersuchungen (ISO 19458:2006)

This European Standard was approved by CEN on 1 July 2006.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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## Introduction

Appropriate sampling is essential to provide representative samples to the laboratory in charge of testing. Sampling features depend on the objective of sampling, but also on the nature of the sample. Microorganisms are living organisms. In addition, when they are introduced into water, they do not form a perfect solution, but a suspension with an inherent degree of variability.

Sampling objectives may serve different purposes, which are described in the ISO 5667 series of standards (ISO 5667-1, ISO 5667-2 and ISO 5667-3):

- a) determination of the compliance of a water with a regulatory quality specification;
- b) characterization of any contamination, its level (mean) and its variations:
  - 1) what is its random variation?
  - 2) is there a trend?
  - 3) are there cycles?
- c) identification of the sources of pollution.

Regarding the number or frequency of samples, it will vary according to the aim of the sampling.

The minimum number of samples will be low if the mean concentration differs greatly from the specification (much lower or much higher), and the minimum number of samples will be higher if the mean concentration and the specification are close to one another. Similarly, in case b), when looking for a trend: the less obvious the trend, the higher the frequency of sampling (see also Annex A).

# Water quality — Sampling for microbiological analysis

**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 according to this standard be carried out by suitably trained staff.

## 1 Scope

This International Standard provides guidance on planning water sampling regimes, on sampling procedures for microbiological analysis and on transport, handling and storage of samples until analysis begins. It focuses on sampling for microbiological investigations.

General information in respect to the sampling from distinct water bodies is given in the respective parts of ISO 5667.

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

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 water samples*

## 3 Sampling point

The sampling site shall provide representative characteristics and account for any vertical, horizontal and temporal variations and shall be identified precisely following the general recommendations of ISO 5667-1 and ISO 5667-2, taking into account additional aspects specific to microbiology.

Sampling points where conditions are unstable should be avoided, and the heterogeneity of the hydraulic system shall be taken into consideration. In studies on the efficacy of disinfection, the sampling point shall be chosen to ensure that the reaction is complete.

**EXAMPLE** Examples of how the heterogeneity of the system may influence the results are given below.

- It is not equivalent to take a subsurface or a surface sample, or a subsurface sample “contaminated” during recovery through the surface film. In some instances (e.g. lakes, swimming pools), the concentration in the surface film can be 1 000 times higher than in the subsurface.