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## **Water quality — Sampling — Part 13: Guidance on sampling of sludges**

*Qualité de l'eau — Échantillonnage —*

*Partie 13: Lignes directrices pour l'échantillonnage de boues*



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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 2.

The main task of technical committees is to prepare International Standards. 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 document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 5667-13 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 6, *Sampling (general methods)*.

This second edition cancels and replaces the first edition (ISO 5667-13:1997), which has been technically revised.

ISO 5667 consists of the following parts, under the general title *Water quality — Sampling*:

- *Part 1: Guidance on the design of sampling programmes and sampling techniques*
- *Part 3: Preservation and handling of water samples*
- *Part 4: Guidance on sampling from lakes, natural and man-made*
- *Part 5: Guidance on sampling of drinking water from treatment works and piped distribution systems*
- *Part 6: Guidance on sampling of rivers and streams*
- *Part 7: Guidance on sampling of water and steam in boiler plants*
- *Part 8: Guidance on the sampling of wet deposition*
- *Part 9: Guidance on sampling from marine waters*
- *Part 10: Guidance on sampling of waste waters*
- *Part 11: Guidance of sampling of groundwaters*
- *Part 12: Guidance on sampling of bottom sediments*
- *Part 13: Guidance on sampling of sludges*
- *Part 14: Guidance on quality assurance of environmental water sampling and handling*
- *Part 15: Guidance on the preservation and handling of sludge and sediment samples*

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- *Part 16: Guidance on biotesting of samples*
- *Part 17: Guidance on sampling of bulk suspended solids*
- *Part 19: Guidance on sampling of marine sediments*
- *Part 20: Guidance on the use of sampling data for decision making — Compliance with thresholds and classification systems*
- *Part 21: Guidance on sampling of drinking water distributed by tankers or means other than distribution pipes*
- *Part 22: Guidance on the design and installation of groundwater monitoring points*
- *Part 23: Guidance on passive sampling*

## Introduction

This part of ISO 5667 should be read in conjunction with ISO 5667-1 and ISO 5667-15. The general terminology used is in accordance with the various parts of ISO 6107.

Sampling and the determination of the physical and chemical properties of sludges and related solids are normally carried out for a specific purpose. The sampling methods given are suitable for general use but do not exclude modification in the light of any special factor known to the analyst receiving the samples or any operational reason dictating the need for sampling. Personnel taking samples should be fully aware of safety requirements before sampling occurs.

The importance of using a valid sampling technique cannot be overemphasized if the subsequent analysis is to be worthwhile. It is important that the personnel taking and analysing the sample be fully aware of its nature and the purpose for which the analysis is required before embarking on any work programme. Full cooperation with the laboratory analysing the samples ensures that the most effective application of the sampling occasion can be made. For example, the use of method-specific sample preservation techniques assists in the accurate determination of results.

This part of ISO 5667 is applicable to sampling motivated by different objectives, some of which are to:

- a) provide data for the operation of activated sludge plants;
- b) provide data for the operation of sludge treatment facilities;
- c) determine the concentration of pollutants in wastewater sludges for disposal to landfill;
- d) test whether prescribed substance limits are contravened when sludge is used in agriculture;
- e) provide information on process control in potable and wastewater treatment, including:
  - 1) addition or withdrawal of solids,
  - 2) addition or withdrawal of liquid;
- f) provide information for legally enforceable aspects of the disposal of sewage and waterworks sludges;
- g) facilitate special investigations into the performance of new equipment and processes;
- h) optimize costs, e.g. for the transport of sludges for treatment or disposal.

When designing a sludge sampling programme, it is essential that the objectives of the study be kept in mind, so that the information gained corresponds to that required. In addition, the data should not be distorted by the use of inappropriate techniques, e.g. inadequate sample storage temperatures or the sampling of unrepresentative parts of a sludge-treatment plant.