



BSI Standards Publication

Water quality — Characterization of analytical methods — Guidelines for the selection of a representative matrix

National foreword

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**Water quality — Characterization of
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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

This document has been prepared for the validation of analytical methods applied to the water quality field. It enables a laboratory to determine the characteristics of a material suitable for determination of the performances of an analytical method itself.

It is not intended to provide an exhaustive inventory of all published recipes, but to propose a selection of recipes supporting the characterization of the performances of analytical methods used by a laboratory. For this reason, a restricted number of recipes are proposed. References giving access to other recipes are available in the Bibliography.

This document includes four recipes for preparing marine waters and five recipes for waste waters with controlled characteristics.

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Water quality — Characterization of analytical methods — Guidelines for the selection of a representative matrix

1 Scope

This document specifies representative materials suitable for the determination of the performance characteristics, including uncertainty, during the initial assessment of a quantitative method, used in a laboratory, for physico-chemical water analysis.

This document focuses on five main types of water:

- waters intended for consumption (5.2);
- natural waters (5.3);
- waste waters (5.4);
- marine waters (5.5);
- recreational waters (5.6).

NOTE Other more specific or less common types of water can be incorporated in any of the above types provided appropriate justifications. The characteristics of the standard matrix are compatible with the characteristics of the samples handled.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 5667-3, *Water quality — Sampling — Part 3: Preservation and handling of water samples*

ISO 6107 (all parts), *Water quality — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 6107 (all parts) and the following apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 General vocabulary

3.1.1 matrix

set of constituents of the test sample, except the *analyte* (3.2.1)

Note 1 to entry: By extension, a matrix defines a group of waters characterized by similar analytical behaviour in relation to the analytical method used.