
**Water quality — Determination of dissolved
bromate — Method by liquid
chromatography of ions**

*Qualité de l'eau — Dosage du bromate dissous — Méthode par
chromatographie des ions en phase liquide*



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

International Standard ISO 15061 was prepared by Technical Committee ISO/TC 147, *Water quality*, Subcommittee SC 2, *Physical, chemical and biochemical methods*.

Annexes A, B, C, D and E of this International Standard are for information only.

Introduction

The essential minimum requirements of an ion chromatographic system applied within the scope of this International Standard for the determination of dissolved bromate are given in clause 5.

The diversity of the appropriate and suitable assemblies, and the procedural steps depending on them, permit a general description only.

Further information on the analytical technique can be found in the normative references (clause 2) and the bibliography.

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Water quality — Determination of dissolved bromate — Method by liquid chromatography of ions

1 Scope

This International Standard specifies a method for the determination of dissolved bromate in water (e.g. drinking water, raw water, surface water, partially treated water or swimming pool water).

Appropriate pretreatment of the sample, for example by elimination of chloride, sulfate, metals, preconcentration or dilution, gives a range of applicability of 0,5 µg/l to 1 000 µg/l dissolved bromate.

The working range is restricted by the ion-exchange capacity of any preconcentration columns used and that of the separator column. Dilution of the sample to the working range may be necessary.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard 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 3696:1987, *Water for analytical laboratory use — Specification and test methods*.

ISO 5667-1:1980, *Water quality — Sampling — Part 1: Guidance on the design of sampling programmes*.

ISO 5667-2:1991, *Water quality — Sampling — Part 2: Guidance on sampling techniques*.

ISO 5667-3:1994, *Water quality — Sampling — Part 3: Guidance on the preservation and handling of samples*.

ISO 8466-1:1990, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*.

ISO 8466-2:1993, *Water quality — Calibration and evaluation of analytical methods and estimation of performance characteristics — Part 2: Calibration strategy for non-linear second order calibration functions*.

3 Interferences

3.1 The presence of nitrate, chloride, carbonate and sulfate may affect the capacity of the concentrator column and lead to poor recovery of bromate (9.2.1).

3.2 The presence of chloride, sulfate, carbonate and hydrogen carbonate can cause interference with the determination of bromate (9.2.1). Depending on the column utilized, other ions may interfere; this should be checked.

3.3 Metals present (e.g. barium and silver ions released from sample pretreatment steps) will bind to the resin material of concentrator and separator columns, resulting in a loss of performance. Metal ions may be eliminated with the aid of a metal clean-up column or special exchangers (see Figure 1 and clause 9).