

Water quality —

Part 2: Physical, chemical and biochemical methods —

Section 2.41 Determination of fluoride: electrochemical probe method for potable and lightly polluted water

Confirmed
July 2008

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by the Environment and Pollution Standards Policy Committee (EPC/-) to Technical Committee EPC/44, upon which the following bodies were represented:

- Association of Consulting Scientists
- British Association for Chemical Specialities
- British Gas plc
- Chemical Industries Association
- Convention of Scottish Local Authorities
- Department of the Environment (Water Directorate)
- Department of the Environment for Northern Ireland
- Department of Trade and Industry (Laboratory of the Government Chemist)
- Electricity Association
- Industrial Water Society
- Institute of Gas Engineers
- Institution of Water Officers
- Institution of Water and Environmental Management
- National Rivers Authority
- Royal Institute of Public Health and Hygiene
- Royal Society of Chemistry
- Scottish Association of Directors of Water and Sewerage Services
- Soap and Detergent Industry Association
- Water Companies Association
- Water Research Centre
- Water Services Association of England and Wales

The following bodies were also represented in the drafting of the standard, through subcommittees and panels:

- British Agrochemicals Association Ltd.
- British Ceramic Research Ltd.
- British Laboratory Ware Association
- British Soft Drinks Association Ltd.
- Department of Trade and Industry (Warren Spring Laboratory)
- GAMBICA (BEAMA Ltd.)
- Institute of Terrestrial Ecology
- Ministry of Defence
- Society of Chemical Industry
- South West Polytechnic
- Swimming Pool and Allied Trades Association Ltd.

This British Standard, having been prepared under the direction of the Environment and Pollution Standards Policy Committee, was published under the authority of the Standards Board and comes into effect on 15 March 1993

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The following BSI references relate to the work on this standard:
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Amendments issued since publication

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National foreword

This Section of BS 6068, which has been prepared under the direction of the Environment and Pollution Standards Policy Committee, is identical with ISO 10359-1:1992 *Water quality — Determination of fluoride — Part 1: Electrochemical probe method for potable and lightly polluted water*.

The international standard was prepared by Technical Committee 147, Water quality, of the International Organization for Standardization (ISO) with the active participation and approval of the UK.

BS 6068 is being published in a series of Parts subdivided into Sections that will generally correspond to particular international standards. Sections are being, or will be, published in Parts 1 to 7, which together with Part 0, are listed below.

- *Part 0: Introduction;*
- *Part 1: Glossary;*
- *Part 2: Physical, chemical and biochemical methods;*
- *Part 3: Radiological methods;*
- *Part 4: Microbiological methods;*
- *Part 5: Biological methods;*
- *Part 6: Sampling;*
- *Part 7: Precision and accuracy.*

Fluoride ions occur in almost all ground and surface waters. Their concentration depends primarily on the hydrogeological conditions and is generally below 1 mg/l.

Certain industrial waste waters may contain fluoride ions in higher concentrations.

The fluoride value is also dependent on the type and concentration of cations present at the same time in water, such as Ca^{2+} , Mg^{2+} , Al^{3+} or Fe^{3+} , which may form sparingly soluble compounds with fluoride ions or complexes of low dissociation constant.

Apart from these compounds, stable boron-fluoride complexes exist.

Several different methods are available for determining fluoride and the choice of method depends on the type of problem posed as follows.

- a) Direct measurement using fluoride ion selective electrodes. This method is suitable for the determination of fluoride in potable and surface water. It is specified in this Section of BS 6068.
- b) Determination of the total inorganically bound fluoride using decomposition, distillation and potentiometric measurement. This method will be specified in another Section of BS 6068.

Cross-reference

International standard	Corresponding British Standard
ISO 5667-3:1985	BS 6068 <i>Water quality</i> Section 6.3:1986 <i>Guidance on the preservation, and handling of samples</i> (Identical)

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 6, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.