

Water quality - Determination of adsorbable organically bound fluorine, chlorine, bromine and iodine (AOF, AOCl, AOBr, AOI) - Method using combustion and subsequent ion chromatographic measurement (ISO 18127:2026)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

<p>See Eesti standard EVS-EN ISO 18127:2026 sisaldab Euroopa standardi EN ISO 18127:2026 ingliskeelset teksti.</p> <p>Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.</p> <p>Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 25.02.2026.</p> <p>Standard on kättesaadav Eesti Standardimis- ja Akrediteerimiskeskusest.</p>	<p>This Estonian standard EVS-EN ISO 18127:2026 consists of the English text of the European standard EN ISO 18127:2026.</p> <p>This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.</p> <p>Date of Availability of the European standard is 25.02.2026.</p> <p>The standard is available from the Estonian Centre for Standardisation and Accreditation.</p>
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EUROPEAN STANDARD

EN ISO 18127

NORME EUROPÉENNE

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English Version

Water quality - Determination of adsorbable organically bound fluorine, chlorine, bromine and iodine (AOF, AOCl, AOBr, AOI) - Method using combustion and subsequent ion chromatographic measurement (ISO 18127:2026)

Qualité de l'eau - Dosage des composés organiques adsorbables contenant du fluor, du chlore, du brome et de l'iode (AOF, AOCl, AOBr, AOI) - Méthode de combustion suivie d'un mesurage par chromatographie ionique (ISO 18127:2026)

Wasserbeschaffenheit - Bestimmung von adsorbierbarem organisch gebundenem Fluor, Chlor, Brom und Iod (AOF, AOCl, AOBr, AOI) - Verfahrens mittels Verbrennung und nachfolgender Ionenchromatographischer Messung (ISO 18127:2026)

This European Standard was approved by CEN on 1 December 2025.

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CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

This document (EN ISO 18127:2026) has been prepared by Technical Committee ISO/TC 147 "Water quality" in collaboration with Technical Committee CEN/TC 230 "Water analysis" the secretariat of which is held by DIN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by August 2026, and conflicting national standards shall be withdrawn at the latest by August 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

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Endorsement notice

The text of ISO 18127:2026 has been approved by CEN as EN ISO 18127:2026 without any modification.



**International
Standard**

ISO 18127

**Water quality — Determination
of adsorbable organically bound
fluorine, chlorine, bromine and
iodine (AOF, AOCl, AOBr, AOI) —
Method using combustion and
subsequent ion chromatographic
measurement**

*Qualité de l'eau — Dosage des composés organiques adsorbables
contenant du fluor, du chlore, du brome et de l'iode (AOF, AOCl,
AOBr, AOI) — Méthode de combustion suivie d'un mesurage par
chromatographie ionique*

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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 document 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*, in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 230, *Water analysis*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

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

Adsorbable organically bound fluorine, chlorine, bromine and iodine are analytical convention parameters used to monitor water quality. They represent the sum of organically bound fluorine, chlorine, bromine and iodine that can be adsorbed on activated carbon under specified conditions and, if the sample has not been filtered, can also be attached to or contained in suspended substances.

In contrast to the adsorbable organically bound halogen (AOX) method according to ISO 9562, this method can be applied to determine the sum of organofluorine compounds in addition to the determination of the organically bound chlorine, bromine and iodine and detected halogen-specific separately.

The method is carried out by combustion ion chromatography (CIC).

Procedures for each separate parameter are described in [Annex A](#), [Annex B](#), [Annex C](#) and [Annex D](#).

Alternatively, the adsorption of the organic substances contained in the water sample on activated carbon can also be carried out by the shaking method (see [Annex E](#)).

Samples with a high content of suspended solids can be analysed using the shaking method (see [Annex E](#)).

Samples with a high content of inorganic halides can be analysed using the solid phase extraction (SPE) method (see [Annex F](#)).

Results for samples analysed according to [Annex E](#) (shaking procedure) or [Annex F](#) (SPE procedure) can differ significantly from those of the method specified in the main part.

With some waters, interference can occur that cannot be eliminated. These waters cannot be measured with the method.

The AOCl, AOBr and AOI results according to [Annex B](#), [Annex C](#) and [Annex D](#) can also be reported as adsorbable organically bound halogens determined by combustion ion chromatography (CIC-AOX) (see [Annex J](#)).

Water quality — Determination of adsorbable organically bound fluorine, chlorine, bromine and iodine (AOF, AOCl, AOBr, AOI) — Method using combustion and subsequent ion chromatographic measurement

WARNING — Persons using this document should be familiar with normal laboratory practice. This document 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.

IMPORTANT — It is absolutely essential that tests conducted in accordance with this document be carried out by suitably qualified staff.

1 Scope

This document specifies a method for the determination of organically bound halogens fluorine, chlorine, bromine and iodine which are adsorbable on activated carbon. Adsorption takes place on activated carbon packed in columns.

The method is applicable for the determination of:

- $\geq 2 \mu\text{g/l}$ AOF, expressed as F;
- $\geq 10 \mu\text{g/l}$ AOCl, expressed as Cl;
- $\geq 1 \mu\text{g/l}$ AOBr, expressed as Br;
- $\geq 1 \mu\text{g/l}$ AOI, expressed as I.

The method is applicable for the determination of adsorbable organically bound fluorine, chlorine, bromine and iodine in water, e.g. in groundwater, surface water, bank filtrate, drinking water, aqueous eluates, cooling water and wastewater.

The working range is limited by the capacity of the activated carbon, the process blank and the capacity of the chromatographic separation column. Sample dilution into the working range can be required.

The range of application can be extended to lower concentrations with lower process blanks e.g. using low blank activated carbons.

The method can also be applied for samples containing suspended solids. Halogens adsorbed on the suspended solids (e.g. undissolved halides) are also determined. Filtration of the sample prior to analysis using a membrane filter ($0,45 \mu\text{m}$) allows the separate determination of dissolved adsorbable and particulate bound fractions of organically bound fluorine, chlorine, bromine or iodine.

Results from an international interlaboratory trial are presented in [Annex K](#).

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 8466-1, *Water quality — Calibration and evaluation of analytical methods — Part 1: Linear calibration function*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

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

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

3.1

adsorbable organically bound fluorine

AOF

equivalent mass of fluorine in organic halogen compounds, expressed as fluorine, measured under the conditions of this procedure

3.2

adsorbable organically bound chlorine

AOCI

equivalent mass of chlorine in organic halogen compounds, expressed as chlorine, measured under the conditions of this procedure

3.3

adsorbable organically bound bromine

AOBr

equivalent mass of bromine in organic halogen compounds, expressed as bromine, measured under the conditions of this procedure

3.4

adsorbable organically bound iodine

AOI

equivalent mass of iodine in organic halogen compounds, expressed as iodine, measured under the conditions of this procedure

3.5

adsorbable organically bound halogens

AOX

equivalent mass of the halogens chlorine, bromine and iodine in organic compounds, determined according to ISO 9562 and expressed as chloride

3.6

test sample

sample obtained from the original sample after preparation and dilution, if necessary, and fed into the adsorption process

3.7

combustion ion chromatography

CIC

technique comprising oxidative high-temperature combustion followed by absorption of formed hydrogen halides and subsequent ion chromatographic detection of the halide ions

3.8

adsorbable organically bound halogens, determined by combustion ion chromatography

CIC-AOX

equivalent mass of the halogens chlorine, bromine and iodine in organic compounds, measured under the conditions of this procedure and expressed as chlorine