

Water quality - Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TNb) and dissolved bound nitrogen (DNb) after high temperature catalytic oxidative combustion (ISO 20236:2018)

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN ISO 20236:2021 sisaldab Euroopa standardi EN ISO 20236:2021 ingliskeelset teksti.	This Estonian standard EVS-EN ISO 20236:2021 consists of the English text of the European standard EN ISO 20236:2021.
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English Version

Water quality - Determination of total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TNb) and dissolved bound nitrogen (DNb) after high temperature catalytic oxidative combustion (ISO 20236:2018)

Qualité de l'eau - Dosage du carbone organique total (COT), carbone organique (COD), azote lié total (TNb) et azote lié dissous (DNb) après combustion oxydative catalytique à haute température (ISO 20236:2018)

Wasserbeschaffenheit - Bestimmung des gesamten organischen Kohlenstoffs (TOC), des gelösten organischen Kohlenstoffs (DOC), des gebundenen Stickstoffs (TNb) und des gelösten gebundenen Stickstoffs (DNb) nach katalytischer oxidativer Hochtemperaturverbrennung (ISO 20236:2018)

This European Standard was approved by CEN on 15 November 2021.

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European foreword

The text of ISO 20236:2018 has been prepared by Technical Committee ISO/TC 147 "Water quality" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 20236:2021 by 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of an identical text or by endorsement, at the latest by May 2022, and conflicting national standards shall be withdrawn at the latest by May 2022.

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.

This document supersedes EN 12260:2003.

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

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Endorsement notice

The text of ISO 20236:2018 has been approved by CEN as EN ISO 20236:2021 without any modification.

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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

Total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TN_b) and dissolved bound nitrogen (DN_b) are an analytical convention, the respective result of which is a parameter used for water quality control purposes. These parameters represent the sum of organically bound carbon as well as the sum of inorganic and organic nitrogen (but not nitrogen gas), which can be dissolved in water or bonded to dissolved or suspended matter under specified conditions and, if the sample is not filtered, includes that associated with suspended matter. It does not give information on the nature of the substances.

Details of an interlaboratory trial on the performance data for TOC or DOC and TN_b or DN_b are given in [Annex B](#).

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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 total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TN_b) and dissolved bound nitrogen (DN_b) in the form of free ammonia, ammonium, nitrite, nitrate and organic compounds capable of conversion to nitrogen oxides under the conditions described. The procedure is carried out instrumentally.

NOTE Generally the method can be applied for the determination of total carbon (TC) and total inorganic carbon (TIC), see [Annex A](#).

The method is applicable to water samples (e.g. drinking water, raw water, ground water, surface water, sea water, waste water, leachates).

The method allows a determination of TOC and DOC ≥ 1 mg/l and TN_b and DN_b ≥ 1 mg/l. The upper working range is restricted by instrument-dependent conditions (e.g. injection volume). Higher concentrations can be determined after appropriate dilution of the sample.

For samples containing volatile organic compounds (e.g. industrial waste water), the difference method is used, see [Annex A](#).

Cyanide, cyanate and particles of elemental carbon (soot), when present in the sample, can be determined together with the organic carbon.

The method is not appropriate for the determination of volatile, or purgeable, organic carbon under the conditions described by this method.

Dissolved nitrogen gas (N₂) is not determined.

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 and estimation of performance characteristics — Part 1: Statistical evaluation of the linear calibration function*

3 Terms and definitions

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