ICS 13.060.50 SLOVENSKÁ TECHNICKÁ NORMA Apríl 2025

STN	**Kvalita vody Stanovenie celkového organického uhlíka (TOC), rozpusteného organického uhlíka (DOC), celkového viazaného dusíka (TNb) a rozpusteného viazaného dusíka (DNb) po vysokoteplotnom katalytickom oxidačnom spaľovaní (ISO 20236: 2024)**	**STN EN ISO 20236** 75 7458

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 20236:2024)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 03/25

Obsahuje: EN ISO 20236:2024, ISO 20236:2024

Oznámením tejto normy sa ruší
STN EN ISO 20236 (75 7458) z februára 2022

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 20236

November 2024

ICS 13.060.50 Supersedes EN ISO 20236:2021

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 20236:2024)

Qualité de l'eau - Dosage du carbone organique total (COT), carbone organique dissous (COD), azote lié total (TNb) et azote lié dissous (DNb) après combustion catalytique oxydante à haute température (ISO 20236:2024)

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 20236:2024)

This European Standard was approved by CEN on 3 October 2024.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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Ref. No. EN ISO 20236:2024 E

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European foreword

This document (EN ISO 20236:2024) 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 May 2025, and conflicting national standards shall be withdrawn at the latest by May 2025.

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 ISO 20236:2021.

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

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

Endorsement notice

The text of ISO 20236:2024 has been approved by CEN as EN ISO 20236:2024 without any modification.

International Standard

ISO 20236

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

Qualité de l'eau — Dosage du carbone organique total (COT), carbone organique dissous (COD), azote lié total (TNb) et azote lié dissous (DNb) après combustion catalytique oxydante à haute température

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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*, 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).

This second edition cancels and replaces the first edition (ISO 20236:2018), which has been technically revised.

The main changes are as follows:

— the method to determine concentrations <1 mg/l of C and N has been expanded;

— the normative references have been updated;

— the method to apply single component standard calibration solutions e.g. based on as ammonium sulfate or potassium nitrate, has been expanded;

— Clause A.5 has been added in order to require referencing the difference methods with the results report.

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 (TNb) and dissolved bound nitrogen (DNb) are an analytical convention, whose characteristic 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. The abbreviations TOC, DOC, TNb, DNb, TC and TIC refer to values determined by the high temperature method.

Details of a validation interlaboratory trial with the performance data for TOC or DOC and TNb or DNb, all using the high temperature method in this document, are given in Annex B.

International Standard **ISO 20236:2024(en)**

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

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 to determine the total organic carbon (TOC), dissolved organic carbon (DOC), total bound nitrogen (TNb) and dissolved bound nitrogen (DNb) in the form of free ammonia, ammonium, nitrite, nitrate and organic compounds capable of conversion to nitrogen oxides.

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

Dissolved nitrogen gas (N_2) is not determined.

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).

This document is applicable to determination of TOC and DOC ≥1 mg/l and TNb and DNb ≥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. The determination of concentrations <1 mg/l is dependent on instrument conditions applying appropriate calibration.

For samples containing volatile organic compounds (e.g. industrial waste water), the application of the difference method can be considered – see Annex A.

The procedure is carried out by automated analysis.

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*