SLOVENSKI STANDARD
SIST EN ISO 22036:2024

01-junij-2024

Nadomešča:
SIST EN 16170:2017
SIST ISO 22036:2019

Trdni matriksi v okolju - Določanje elementov z optično emisijsko spektrometrijo z induktivno sklopljeno plazmo (ICP/OES) (ISO 22036:2024)

Environmental solid matrices - Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 22036:2024)

Feste Umweltmatrizes - Bestimmung von Elementen mittels optischer Emissionsspektrometrie mit induktiv gekoppeltem Plasma (ICP-OES) (ISO 22036:2024)

Matrices solides environnementales - Dosage d'éléments par spectroscopie d'émission optique avec plasma induit par haute fréquence (ICP-OES) (ISO 22036:2024)

Ta slovenski standard je istoveten z: **EN ISO 22036:2024**

ICS:

13.080.10	Kemijske značilnosti tal	Chemical characteristics of soils
71.040.50	Fizikalnokemijske analitske metode	Physicochemical methods of analysis

SIST EN ISO 22036:2024 **en,fr,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 22036

January 2024

ICS 13.080.10

Supersedes EN 16170:2016

English Version

Environmental solid matrices - Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES) (ISO 22036:2024)

Matrices solides environnementales - Dosage d'éléments par spectroscopie d'émission optique avec plasma induit par haute fréquence (ICP-OES) (ISO 22036:2024)

Feste Umweltmatrizes - Bestimmung von Elementen mittels optischer Emissionsspektrometrie mit induktiv gekoppeltem Plasma (ICP-OES) (ISO 22036:2024)

This European Standard was approved by CEN on 2 January 2024.

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

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

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European foreword

This document (EN ISO 22036:2024) has been prepared by Technical Committee ISO/TC 190 "Soil quality" in collaboration with Technical Committee CEN/TC 444 “Environmental characterization of solid matrices” the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by July 2024, and conflicting national standards shall be withdrawn at the latest by July 2024.

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 16170:2016.

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Endorsement notice

The text of ISO 22036:2024 has been approved by CEN as EN ISO 22036:2024 without any modification.

International Standard

ISO 22036

Environmental solid matrices — Determination of elements using inductively coupled plasma optical emission spectrometry (ICP-OES)

Matrices solides environnementales — Dosage d'éléments par spectroscopie d'émission optique avec plasma induit par haute fréquence (ICP-OES)

Second edition
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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 190, *Soil quality*, Subcommittee SC 3, *Chemical and physical characterization,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 444, *Environmental characterization of solid matrices,* in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This second edition cancels and replaces the first edition (ISO 22036:2008), which has been technically revised.

The main changes are as follows:

— the content of ISO 22036:2008 and EN 16170:2017 has been merged;

— the Scope has been widened to include treated biowaste, waste, sludge and sediment;

— the document has been developed parallel with CEN according to the Vienna Agreement;

— applicable digestion and extraction methods have been updated;

— the text has been editorially revised.

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

This document is applicable and validated for several types of matrices as indicated in Table 1 (see Annex A for the results of validation).

Table 1 — Matrices for which this International Standard is applicable and validated

Matrix	Materials used for validation
Sludge	Municipal sludge Industrial sludge Sludge from electronic industry Ink waste sludge Sewage sludge
Biowaste	Compost Composted sludge
Soil	Agricultural soil Sludge amended soils
Waste	City waste incineration fly ash ("oxidised" matrix) City waste incineration bottom ash ("silicate" matrix) Ink waste sludge (organic matrix) Electronic industry sludge ("metallic" matrix) BCR 146R (sewage sludge) BCR 176 (city waste incineration ash)
Sediments	ISE 859 (Sediment from de Bilt / Netherlands)

The choice of calibration method depends on the extractant and can be adapted to the extractant concentration.