

Environmental solid matrices - Determination of total dissolved solids (TDS) in water and eluates

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

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English Version

Environmental solid matrices - Determination of total dissolved solids (TDS) in water and eluates

Matrices environnementales solides - Détermination de la concentration en matières solides dissoutes totales (TDS) de l'eau et des éluats

Umweltrelevante Matrices - Bestimmung des Gesamtgehaltes an gelösten Feststoffen (TDS) in Wasser und Eluaten

This European Standard was approved by CEN on 11 July 2021.

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European foreword

This document (EN 15216:2021) has been prepared by 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of an identical text or by endorsement, at the latest by April 2022, and conflicting national standards shall be withdrawn at the latest by April 2022.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 15216:2007.

In comparison with EN 15216:2007, the following changes have been made:

- Textual changes to clarify the procedure after a third weighing and in case of observed inhomogeneity.

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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Introduction

Total dissolved solids are a common sum parameter that is in use in water analysis and in analysis of eluates.

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1 Scope

This document specifies a method for the determination of total dissolved solids (TDS) in water and eluates (see Annex A), provided they are not volatile under the conditions specified or that they do not release water molecules from hydration. It applies to water and eluates containing more than 100 mg/l of total dissolved solids. Samples with lower amounts of dissolved solids can be analysed by repetition of the drying step.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminological 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

total dissolved solids

TDS

ρ_{TDS}

mass of dissolved constituents per unit volume of water remaining after a specified filtering and drying process

Note 1 to entry: TDS is expressed in milligrams per litre.

4 Principle

The test sample is filtered and then dried in a dish to a constant mass in an oven at $(105 \pm 5) ^\circ\text{C}$.

5 Sample storage and preparation

It is recommended to carry out the test immediately, but not later than one week after sampling of the water sample or preparation of the eluate.

During storage, the laboratory sample may be subject to changes which are liable to influence the analysis result. If storage is necessary, samples shall be kept at $2 ^\circ\text{C}$ to $8 ^\circ\text{C}$.

6 Equipment

6.1 Drying system thermostatically controlled and capable of maintaining a temperature of $(105 \pm 5) ^\circ\text{C}$; e.g. drying oven, infrared system.

6.2 Desiccator with an active drying agent such as silica gel.

6.3 Analytical balance with an accuracy of 1 mg or better.

6.4 Membrane filter (porosity of $0,45 \mu\text{m}$).

6.5 Filtration apparatus.