



Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 17332:2023

Construction products: Assessment of release of dangerous substances - Analysis of organic substances in eluates

Bauprodukte: Bewertung der Freisetzung
von gefährlichen Stoffen - Analyse von
organischen Stoffen in Eluaten

Produits de construction : Évaluation de
l'émission de substances dangereuses -
Analyse des substances organiques dans
les éluats

11/2023



National Foreword

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**Construction products: Assessment of release of
dangerous substances - Analysis of organic substances in
eluates**

Produits de construction : Évaluation de l'émission de
substances dangereuses - Analyse des substances
organiques dans les éluats

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gefährlichen Stoffen - Analyse von organischen Stoffen
in Eluaten

This European Standard was approved by CEN on 14 August 2023.

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This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European foreword

This document (EN 17332:2023) has been prepared by Technical Committee CEN/TC 351 “Construction products: Assessment of release of dangerous substances”, 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of an identical text or by endorsement, at the latest by May 2024, and conflicting national standards shall be withdrawn at the latest by May 2024.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 CEN/TS 17332:2019.

In comparison with the previous edition, the following technical modifications have been made:

- the addition of performance data and data from intercomparison validation;
- alignment of terms and definitions within the working groups of CEN/TC 351, i.e. through the revised version of EN 16687.

This document has been prepared under a Standardization Request given to CEN by the European Commission and the European Free Trade Association.

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

This document deals with the determination of organic substances in eluates which have been obtained by leaching of construction products.

Following an extended evaluation of available methods for content and eluate analysis in construction products (CEN/TR 16045) it was concluded that eluate analysis methods are very similar to analytical methods used to determine organic substances in water. The present document is similar in structure to EN 16192.

This document is part of a modular horizontal approach and belongs to the analytical step. An overview of all modules which belong to a chain of measurement and the manner how modules are selected is given in CEN/TR 16220.

In the growing amount of product and sector-oriented test methods it was recognized that many steps in test procedures are or could be used in test procedures for many products, materials and sectors. It was supposed that, by careful determination of these steps and selection of specific questions within these steps, elements of the test procedure could be described in a way that can be used for all materials and products or for all materials and products with certain specifications.

In this context a horizontal modular approach is adopted in CEN/TC 351. “Horizontal” means that the methods can be used for a wide range of materials and products with certain properties. “Modular” means that a test standard developed in this approach concerns a specific step in assessing a property and not the whole “chain of measurement” (from sampling to analyses). A beneficial feature of this approach is that “modules” can be replaced by better ones without jeopardizing the standard “chain”.

The use of modular horizontal standards implies the drawing of test schemes as well. Before executing a test on a certain material or product to determine certain characteristics, it is recommended to draw up a protocol in which the adequate modules are selected and together form the basis for the entire test procedure.

This module relates to EN 16637-1, EN 16637-2, and EN 16637-3.

1 Scope

This document specifies methods for the determination of specific organic substances in aqueous eluates from leaching of construction products.

The following parameters are covered: pH, electrical conductivity, biocides, bisphenol A, BTEX, dioxins and furans, DOC, epichlorohydrin, mineral oil, nonylphenols, PAH, PBDE, PCB, dioxin-like PCB, PCP, phenols and phthalates.

NOTE 1 Methods still under development or available at national level only are listed in Annex B (informative) for certain amines, AOX, and biocidal and plant protection products.

NOTE 2 Methods that have not been validated for aqueous eluates from leaching of construction products, because no suitable material was available at the time of the robustness validation, only are listed in Annex B (informative). This applies to organotin compounds.

The methods in this document come from different fields, mainly the analysis of water, and are applicable for the eluates from construction products. They are validated for eluates of the product types listed in Annex A (informative).

NOTE 3 Construction products include, e.g. mineral-based products (S), bituminous products (B), wood-based products (W), plastic and rubbers (P), sealants and adhesives (A), paints and coatings (C) and metals (M) (see also CEN/TR 16045). This document includes analytical methods for all matrices except metals.

The selection of the method to be applied is based on the product matrix and the required sensitivity.

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.

EN 1484, *Water analysis — Guidelines for the determination of total organic carbon (TOC) and dissolved organic carbon (DOC)*

EN 12673, *Water quality — Gas chromatographic determination of some selected chlorophenols in water*

EN 14207, *Water quality — Determination of epichlorohydrin*

EN 16687:2023, *Construction products: Assessment of release of dangerous substances — Terminology*

EN 16694, *Water quality — Determination of selected polybrominated diphenyl ether (PBDE) in whole water samples — Method using solid phase extraction (SPE) with SPE-disks combined with gas chromatography — Mass spectrometry (GC-MS)*

EN 17845, *Construction products: Assessment of release of dangerous substances — Determination of biocide residues using liquid chromatography with mass spectrometric detection (LC-MS/MS)*

EN 27888, *Water quality — Determination of electrical conductivity (ISO 7888)*

EN ISO 5667-3, *Water quality — Sampling — Part 3: Preservation and handling of water samples (ISO 5667-3)*

EN ISO 9377-2:2000, *Water quality — Determination of hydrocarbon oil index — Part 2: Method using solvent extraction and gas chromatography (ISO 9377-2:2000)*

EN ISO 10523, *Water quality — Determination of pH (ISO 10523)*

EN ISO 14402, *Water quality — Determination of phenol index by flow analysis (FIA and CFA)*(ISO 14402)

EN ISO 15680, *Water quality — Gas-chromatographic determination of a number of monocyclic aromatic hydrocarbons, naphthalene and several chlorinated compounds using purge-and-trap and thermal desorption* (ISO 15680)

EN ISO 18856:2005, *Water quality — Determination of selected phthalates using gas chromatography/mass spectrometry* (ISO 18856:2004)

EN ISO 18857-2, *Water quality — Determination of selected alkylphenols — Part 2: Gas chromatographic-mass spectrometric determination of alkylphenols, their ethoxylates and bisphenol A in non-filtered samples following solid-phase extraction and derivatisation* (ISO 18857-2)

ISO 17858, *Water quality — Determination of dioxin-like polychlorinated biphenyls — Method using gas chromatography/mass spectrometry*

ISO 18073, *Water quality — Determination of tetra- to octa-chlorinated dioxins and furans — Method using isotope dilution HRGC/HRMS*

ISO 20595, *Water quality — Determination of selected highly volatile organic compounds in water — Method using gas chromatography and mass spectrometry by static headspace technique (HS-GC-MS)*

ISO 28540, *Water quality — Determination of 16 polycyclic aromatic hydrocarbons (PAH) in water — Method using gas chromatography with mass spectrometric detection (GC-MS)*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 16687:2023 and the following 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

alternative method

method calibrated against the reference test method used to determine a value of release/emission/content of substances directly correlating with the test results from the reference test

[SOURCE: EN 16687:2023, 3.3.1.5; modified – Notes to entry removed]

3.2

blank value

test result obtained by carrying out the test procedure in the absence of a test portion

[SOURCE: EN 16687:2023, 3.3.1.10; modified – Note 1 to entry removed]

3.3

eluate

solution obtained from a leaching test

[SOURCE: EN 16687:2023, 3.3.2.8; modified – Note 1 to entry removed]