



BSI Standards Publication

**Construction products: Assessment of release of dangerous substances — Determination of ecotoxicity of construction product eluates**

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## National foreword

This Published Document is the UK implementation of CEN/TS 17459:2022.

The UK participation in its preparation was entrusted to Technical Committee B/557, Construction products - Assessment of dangerous substances.

A list of organizations represented on this committee can be obtained on request to its committee manager.

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Published by BSI Standards Limited 2022

ISBN 978 0 539 05831 4

ICS 13.020.99; 19.040; 91.100; 91.100.01

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 December 2022.

### Amendments/corrigenda issued since publication

Date	Text affected
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TECHNICAL SPECIFICATION  
SPÉCIFICATION TECHNIQUE  
TECHNISCHE SPEZIFIKATION

**CEN/TS 17459**

December 2022

ICS 13.020.99; 19.040; 91.100

English Version

**Construction products: Assessment of release of  
dangerous substances - Determination of ecotoxicity of  
construction product eluates**

Produits de construction : évaluation de l'émission de  
substances dangereuses - Détermination de  
l'écotoxicité des éluats de produits de construction

Bauprodukte: Bewertung der Freisetzung von  
gefährlichen Stoffen - Bestimmung der Ökotoxizität  
von Eluaten aus Bauprodukten

This Technical Specification (CEN/TS) was approved by CEN on 23 October 2022 for provisional application.

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## Contents

Page

European foreword.....	3
Introduction .....	4
1 Scope.....	5
2 Normative references.....	5
3 Terms and definitions .....	6
4 Abbreviations .....	8
5 Leaching procedures for ecotoxicological testing.....	8
5.1 Suitable leaching tests and selection of fractions from leaching tests .....	8
5.1.1 General.....	8
5.1.2 Dynamic Surface Leaching Test (DSLTT) (CEN/TS 16637-2).....	9
5.1.3 Horizontal up-flow percolation test (CEN/TS 16637-3) .....	9
5.1.4 Alternative leaching tests.....	10
5.2 Sampling, transport and storage of eluates.....	10
5.3 Pre-treatment of eluates.....	11
6 Aquatic ecotoxicological testing .....	11
6.1 Purpose of aquatic ecotoxicity testing.....	11
6.2 Selection of ecotoxicity tests and minimum test battery.....	11
6.3 Testing strategy and conditions .....	12
6.3.1 General.....	12
6.3.2 Additional blank samples.....	12
6.3.3 pH adjustment.....	13
6.3.4 Colour and turbidity.....	13
6.3.5 Unstable eluates .....	13
6.3.6 Expression of test concentrations and dilutions .....	13
6.4 Limitations of aquatic ecotoxicity tests .....	14
7 Assessment of biodegradability.....	14
8 Test report and quality assurance procedure .....	14
Annex A (informative) Validation data.....	16
Annex B (informative) Evaluation of test results .....	19
Bibliography.....	21

## **European foreword**

This document (CEN/TS 17459:2022) 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.

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 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

The regulatory and technical background for this document is explained in CEN/TR 17105 [1]. General information on ecotoxicity assessment is also provided there. This document describes the assessment of ecotoxicological properties of eluates of construction products received from horizontal leaching tests harmonized by CEN/TC 351.

Aquatic ecotoxicity tests can be applied to eluates of construction products which come into contact with soil or water in their intended use as described in CEN/TR 16098:2010, 3.2.2.2 *Products relevant for soil, surface water or groundwater* [3] and in CEN/TS 16637-1. The test procedure specified in this document covers construction products defined in the scope. Validation data are provided in Annex A.

This document is recommended to Technical Committees for construction products (product TCs), if they have been mandated to address ecotoxicity in their product standards or if they are interested to include ecotoxicity in a dossier prepared in the context of qualifications for a “without testing” status. This document is also recommended to EOTA in case there is a wish to include ecotoxicity testing in European Assessment Documents.

## 1 Scope

- 1) This document specifies a test procedure that combines horizontal leaching tests with ecotoxicity tests for the assessment of eluates of the construction products specified in this scope subjected to wet conditions in outdoor use.
- 2) The method specified in this document is intended for the determination of the potential ecotoxicity of eluates extracted out of construction products containing constitutional organic components of main categories of product matrices P (plastics and rubbers), A (sealants and adhesives) or C (paints and coatings) according to CEN/TR 16045.
- 3) Construction products mainly made of inorganic materials: main categories of product matrices S (silica-based and calcareous products) and M (metals) according to CEN/TR 16045 are excluded, unless:
  - the liquid or paste product hardens in direct contact with soil or groundwater; and
  - the used binder contains > 50 % organics by mass.

NOTE 1 This exception mainly refers to products used for soil injection and stabilization, e.g. grouts.

Also, the method is not intended for construction products made of treated or untreated solid wood in main category of product matrix W (wood-based products) according to CEN/TR 16045. For engineered bio-based products the test procedure can be of interest.

- 4) This document is not applicable for the assessment of terrestrial ecotoxicity of construction products.

NOTE 2 Terrestrial ecotoxicity tests for construction products are described in CEN/TR 17105.

## 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.

CEN/TS 16637-1:2018, *Construction products - Assessment of release of dangerous substances - Part 1: Guidance for the determination of leaching tests and additional testing steps*

CEN/TS 16637-2, *Construction products - Assessment of release of dangerous substances - Part 2: Horizontal dynamic surface leaching test*

CEN/TS 16637-3, *Construction products - Assessment of release of dangerous substances - Part 3: Horizontal up-flow percolation test*

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

EN 12457-1, *Characterisation of waste - Leaching - Compliance test for leaching of granular waste materials and sludges - Part 1: One stage batch test at a liquid to solid ratio of 2 l/kg for materials with high solid content and with particle size below 4 mm (without or with size reduction)*

EN ISO 5667-16, *Water quality - Sampling - Part 16: Guidance on biotesting of samples (ISO 5667-16)*

EN ISO 6341, *Water quality - Determination of the inhibition of the mobility of Daphnia magna Straus (Cladocera, Crustacea) - Acute toxicity test (ISO 6341)*