



BSI Standards Publication

## **Packaging - Requirements for measuring and verifying the four heavy metals and other dangerous substances present in packaging, and their release into the environment**

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Part 2: Requirements for measuring and verifying dangerous substances present in packaging, and their release into the environment

## National foreword

This Published Document is the UK implementation of CEN/TR 13695-2:2019. It supersedes PD CEN/TR 13695-2:2004, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PKW/0/5, Packaging and Environment.

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

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Published by BSI Standards Limited 2019

ISBN 978 0 539 01392 4

ICS 13.020.30; 55.020

**Compliance with a British Standard cannot confer immunity from legal obligations.**

This Published Document was published under the authority of the Standards Policy and Strategy Committee on 28 February 2019.

### Amendments/corrigenda issued since publication

Date	Text affected
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English Version

**Packaging - Requirements for measuring and verifying the four heavy metals and other dangerous substances present in packaging, and their release into the environment - Part 2: Requirements for measuring and verifying dangerous substances present in packaging, and their release into the environment**

Emballage - Exigences pour la mesure et la vérification des quatre métaux lourds et autres substances dangereuses présents dans l'emballage, et leur cession dans l'environnement - Partie 2 : Exigences pour la mesure et la vérification des substances dangereuses présentes dans les emballages, et leur cession dans l'environnement

Verpackung - Anforderungen zur Messung und Feststellung der vier Schwermetalle und anderen gefährlichen Substanzen in Verpackungen und deren Freisetzung in die Umwelt - Teil 2: Anforderungen zur Messung und Feststellung von gefährlichen Substanzen in Verpackungen und deren Freisetzung in die Umwelt

This Technical Report was approved by CEN on 23 December 2018. It has been drawn up by the Technical Committee CEN/TC 261.

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## European foreword

This document (CEN/TR 13695-2:2019) has been prepared by Technical Committee CEN/TC 261 “Packaging”, the secretariat of which is held by AFNOR.

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/TR 13695-2:2004.

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

For information on current regulation, see informative [Annex B](#).

This document forms one of a series of standards and reports prepared under Mandate M/200 rev.3 and the Second Standardization Mandate M/317 given to CEN by the European Commission and the European Free Trade Association to support the European Parliament and Council Directive on Packaging and Packaging Waste [94/62/EC]. The procedure for applying this document in conjunction with the other mandated standards and reports is specified in EN 13427.

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## Introduction

The European Commission gave a mandate to CEN for promoting the preparation of European Standards and CEN Technical Reports in order to support the application of Directive 94/62/EC of 20 December 1994, on Packaging and Packaging Waste, in particular to elaborate a CEN Technical Report 'Requirements for measuring and verifying heavy metals and other dangerous substances present in packaging, and their release into the environment'.

NOTE Directive 94/62/EC is amended by European Parliament and Council Directive 2004/12/EC of 11 February 2004.

Part 1 of the CEN Report 'Requirements for measuring and verifying the four heavy metals present in packaging, and their release into the environment' has been previously released (CR 13695-1) due to the priority given in Article 11(1) of the Directive to the four heavy metals explicitly mentioned: Lead, Cadmium, Mercury and Chromium VI.

This document is Part 2 to the CEN/TR / CR 13695 series related to other dangerous substances. It refers to the end-of-life treatment of packaging by incineration or landfilling.

The task of the working group WG 8 'Heavy metals and other dangerous substances' had been attributed by a resolution of CEN/TC 261/SC 4.

The following elements were considered for the development of this work:

- the existing European or national regulations (Directives);
- the CEN standardization on waste (CEN/TC 292);
- the OECD environment monograph series.

A detailed information on the regulatory context is given in [Annex B](#); however this work is expected to be compatible with any further evolution of the related regulation, as it is independent of any specific case.

With regard to the number and diversity of substances, which may be considered as dangerous to the environment, there are no currently available general standardized methods for the systematic measurements of their presence in emissions, ash or leachate, when packaging or residues from management operations or packaging waste are incinerated or landfilled. The task of elaborating specific standardized methods for each substance and applicable in each practical case would be extremely complex and time consuming. This is the reason why a methodology to estimate or calculate these substances based on the use of Safety Data Sheets (according to Directive 91/155/EEC) has been developed.

A simple and efficient assessment method suitable for small and medium-sized suppliers of packaging is proposed, based preferentially on an upstream approach (CR 13695-1:2000, 8.1).

Guidelines are provided to identify and minimize dangerous substances and a methodology is proposed to assess the compliance with the requirements of the Directive.

Since the publication of the previous edition of this document in 2004 a new chemicals regulation has been introduced within the community (REACH, Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals). Also, an adaptation to the Global Harmonized System (GHS) of Classification and Labelling of Chemicals has been made (CLP, Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures) repealing Directive 67/548/EEC (Dangerous Substances) and Directive 1999/45/EC (Dangerous Preparations). The REACH and CLP legislations now in force use different terminology and description of hazard statements compared to what is used in this document and in the connected standard EN 13428.

Due to the lack of mandate for a complete and joint update of the two documents reflecting the changed legislation, instead this document has been amended with minimum necessary explanatory text to be

able to follow the assessment method. The amended document provides a “translation key” allowing for continued understanding and use of both CEN/TR 13695-2 and EN 13428.

Key differences relevant for the understanding and use of this document and EN 13428 are summarized in the table below. Throughout the report text ‘Notes’ are used to highlight differences in terminology, hazard descriptions and labelling criteria in the legislation now in force compared to what is used in CEN/TR 13695-2 and EN 13428.

**Table 1 — Key differences in chemicals legislation, terminology and description of labelling criteria relevant for CEN/TR 13695-2 and EN 13428**

CEN/TR 13695-2:2004 and EN 13428:2004	CEN/TR 13695-2:2018
Repealed Directives: Directive 67/548/EEC (Dangerous Substances) and Directive 1999/45/EC (Dangerous Preparations)	Replaced by: REACH, Regulation (EC) No 1907/2006 (concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals) and CLP, Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures
Term ‘Dangerous’	Replaced by term ‘Hazardous’
Term ‘Preparation’	Replaced by term ‘Mixture’
Criteria for identification of ‘noxious and other hazardous substances’: Any substances classified as dangerous to the environment and assigned with the symbol N and corresponding indication of danger <sup>a</sup>	Recommended interpretation: ‘Meet the criteria of labelling with the environmental hazard pictogram’
<sup>a</sup> Classification criteria for labelling with the dangerous to the environment pictogram.	

## 1 Scope

This document specifies the methodology and procedure for determining the presence and minimization of other dangerous substances in relation with Annex II Para 1 Indent 3 of Directive 94/62/EC. This document is intended to be of practical use, and to enable efficient application of Directive 94/62/EC, even for small and medium-sized companies in the packaging industry, providing them with a methodology for assessing compliance with the Directive.

This document cannot by itself provide presumption of conformity. The procedure for applying this document is contained in EN 13427.

## 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 13193:2000, *Packaging – Packaging and the environment – Terminology*

EN 13428, *Packaging – Requirements specific to manufacturing and composition – Prevention by source reduction*

CR 13695-1:2000, *Packaging – Requirements for measuring and verifying the four heavy metals and other dangerous substances present in packaging and their release into the environment – Part 1: Requirements for measuring and verifying the four heavy metals present in packaging*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13193:2000 and the following apply.

NOTE See the definitions in Article 3 of Directive 94/62/EC.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

### 3.1 substances

chemical elements and their compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product, and any impurity deriving from the production process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition

NOTE A substance may be chemically very well defined (e.g. acetone) or a complex mixture of constituents of variable composition (e.g. aromatic distillates). For certain complex substances, some individual constituents have been identified.

[SOURCE: Directive 67/548/EEC as amended by 2001/59/EC Annex VI, paragraph 1.7.1]

### 3.2 preparations

mixtures or solutions composed of two or more substances

[SOURCE: Directive 67/548/EEC]

NOTE Regulation (EC) No 1907/2006 and Regulation (EC) No 1272/2008 (REACH and CLP) replacing Directive 67/548/EEC use the term mixtures.