BS EN 45558:2019

BSI Standards Publication

General method to declare the use of critical raw materials in energy-related products

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National foreword

This British Standard is the UK implementation of EN 45558:2019.

The UK participation in its preparation was entrusted to Technical Committee SDS/3/5, Energy-related products - Material Efficiency Aspects for Ecodesign.

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

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English Version

General method to declare the use of critical raw materials in energy-related products

Méthode générale de déclaration de l'utilisation de matières premières critiques dans les produits liés à l'énergie

Allgemeines Verfahren zur Deklaration der Verwendung kritischer Rohstoffe in energieverbrauchsrelevanten Produkte

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European foreword

This document [EN 45558:2019] has been prepared by CEN/CLC/JTC 10 "Energy-related products - Material Efficiency Aspects for Ecodesign".

The following dates are fixed:

- latest date by which this document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2020-02-06
- latest date by which the national standards conflicting with this document have to be withdrawn (dow) 2022-02-06

This document has been prepared under a standardization request given to CEN and CENELEC by the European Commission and the European Free Trade Association

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

The dual logo CEN-CENELEC standardization deliverables, in the numerical range of 45550 – 45559, have been developed under standardization request M/543 of the European Commission and are intended to potentially apply to any product within the scope of the Directive 2009/125/EC concerning energy-related products (ErP).

Topics covered in the above standardization request are linked to the following material efficiency aspects:

a) Extending product lifetime;

b) Ability to reuse components or recycle materials from products at end-of-life;

c) Use of reused components and/or recycled materials in products.

These standards are general in nature and describe or define fundamental principles, concepts, terminology or technical characteristics. They can be cited together with other product-specific, or product-group, standards e.g. developed by product technical committees.

This document is intended to be used by manufacturers for assessing products but can also be used by product technical committees when producing horizontal, generic, product-specific, or product-group, standards.

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Introduction

Raw materials are at the core of concepts such as resource efficiency and circular economy, which are crucial to the European economy and essential to maintaining and improving the quality of life. Securing reliable and unhindered access to certain raw materials is a growing concern within the European Union (EU) and across the globe. To address this challenge, the European Commission has created a list of critical raw materials (CRMs). CRMs combine a high economic importance to the EU with a high risk associated with their supply, both of which are determined according to an objective methodology [1]. The list of CRMs is regularly updated [2]. The list current at the time of publication is provided in Annex C (C.1).

The availability of information on the use of CRMs in energy-related products (ErP) is intended to improve the exchange of information e.g. for recycling purposes.

CRMs are identified as a priority area of the European Commission's Circular Economy Action Plan [3]. Altogether, the list of CRMs and related initiatives (including this one) are expected to:

- Contribute to the implementation of the EU industrial policy and strengthen industrial competitiveness;
- Stimulate production of CRMs (including from secondary sources) and the launch of new mining activities in the EU;
- Monitor issues on CRMs to identify priority actions (related for example to trade, research and innovation, circular economy).

As information on the use of CRMs in energy-related products by Member States and industry is still very scarce, efforts need to be made to acquire such knowledge. The objective of this document is to provide a general methodology for declaration of the use of CRMs in energy-related products in support of the implementation of the Ecodesign Directive (2009/125/EC) [4] in product-specific measures. Additionally, this document supports the implementation of the Raw Materials Initiative by the EU [5].

This document specifies a method for the declaration of CRMs, based on EN IEC 62474. Therefore, this document will be essential in supporting manufacturers of energy-related products to obtain information and report on the use of certain CRMs needed to comply with specific requirements in product-specific legislations in the future.

This document is linked to two other standards, prEN 45555 [6] and FprEN 45559. In relation to the first, "*General methods for assessing the recyclability and recoverability of energy-related products*", the information to be gathered on CRMs, with the support of this document, can be used during recycling and recovery processes. In respect to the second, "*Methods for providing information relating to material efficiency aspects of energy-related products*", methods are provided that can be applied in the provision of information on material efficiency aspects, including CRMs.

In view of the complexity of the matters dealt with in this document, additional background information is provided in Annex C. It is, therefore, strongly recommended for clarity, that users refer to this Annex whilst using this document.

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1 Scope

The main intended use of this document is to provide a means for information on the use of CRMs to be exchanged up and down the supply chain and with other relevant stakeholders.

Potential users of this document are any public, private or social enterprises involved in the production of ErP, such as manufacturers of energy-related products (including SMEs) and other organisations in the product supply chain. It is also relevant to European market surveillance and trade authorities as well as European policy makers.

This document is horizontal in nature, and can be applied directly to any type of energy-related product.

This document proposes a standardized format for reporting use of CRMs in energy-related products by applying the EN IEC 62474 materials declaration standard. However, this document does not provide or determine any specific method or tool to collect CRM data.

Process chemicals, emissions during product manufacturing and packaging are not in scope of this document.

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 45559, *Methods for providing information relating to material efficiency aspects of energy-related products*

EN IEC 62474,[1] Material declaration for products of and for the electrotechnical industry

3 Terms, definitions and abbreviations

3.1 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:

— IEC Electropedia: available at http://www.electropedia.org/

— ISO Online browsing platform: available at http://www.iso.org/obp

NOTE See CEN-CLC/TR 45550 [7] for additional definitions related to material efficiency of ErP.

3.1.1
critical raw material
CRM
materials which, according to a defined classification methodology, are economically important, and have a high-risk associated with their supply

Note 1 to entry: for the purpose of this document, CRMs are the ones listed in annex 1 of {COM(2017) 490 final} [2]. Future updates to this list will apply and replace former versions of this list.

3.1.2
regulated critical raw material
regulated CRM
critical raw material for which specific regulatory requirement has been set

[1] Under preparation. Stage at the time of publication: IEC 62474:2018 PRV, (Pre release version), (FprEN IEC 62474:2018).

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Note 1 to entry: CRMs could be regulated for example by implementing measures under the Ecodesign Directive, 2009/125/EC, or subsequent amendments or revisions.

3.1.3
non-regulated critical raw material
non-regulated CRM
critical raw material for which no specific regulatory requirements have been set

3.1.4
material
substance or mixture of substances within a product or product part

[SOURCE: IEC 62474:2018, definition 3.15]

3.1.5
material declaration
declaration of certain substances and/or substance groups contained within a product, product part, or material as applicable

Note 1 to entry: The declaration might be a composition declaration, where the amount of the declared substance or substance group is provided or it might be a declaration for compliance, where only the presence or absence of the declared substance or substance group is provided.

[SOURCE: IEC 62474:2018, definition 3.17]

3.1.6
product part
sub-unit of a product

Note 1 to entry: A product part can be a sub-unit of another product part.

Note 2 to entry: If a standard product part e.g. a cable of 1 m length is declared as product part, only portions of it might be physically present in the product.

Note 3 to entry: In certain legislations, a product part may be called component.

[SOURCE: IEC 62474:2018, definition 3.21]

3.1.7
reporting threshold level
concentration limit at or above which the presence of a declarable substance in a material, product part or product is declared

[SOURCE: IEC 62474:2018, definition 3.25]

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3.1.8
substance
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 impurites deriving from the process used, but excluding any solvent which can be separated without affecting the stability of the substance or changing its composition

[SOURCE: GHS:2017, Chapter 1.2, [8] modified by replacing may by can]

3.1.9
substance group
two or more substances, that share at least one chemical sub-structure, or chemical or physical property under a generic name

[SOURCE: IEC 62474:2018, definition 3.29]

3.1.10
declarable substance
DS
substance that meets specified criteria for reporting

Note 1 to entry: criteria for declarable substances within the IEC 62474 DSL are specified in Clause 5 of IEC 62474:2018.

Note 2 to entry: This note applies to the French language only.

[SOURCE: IEC 62474:2018, definition 3.5]

3.1.11
declarable substance group
DSG
substance group that meets specified criteria for reporting

EXAMPLE Chromium (VI) compounds.

Note 1 to entry: criteria for declarable substance groups within the IEC 62474 DSL are specified in Clause 5 of IEC 62474:2018.

Note 2 to entry: This note applies to the French language only.

[SOURCE: IEC 62474:2018, definition 3.6]

3.1.12
declarable substance list
DSL
list of declarable substances and/or declarable substance groups each with a reporting threshold for a reportable application(s) which has a mandatory or optional reporting requirement when contained at or above its maximum threshold value within a product, product part or material

[SOURCE: IEC 62474:2018, definition 3.8]

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3.2 Abbreviations

The following abbreviations have been used in this document:

CAS	Chemical Abstracts Service
CRM	Critical Raw Material
DSL	Declarable Substance List
DS	Declarable Substance
DSG	Declarable Substance Group
EEE	Electrical and Electronic Equipment
ErP	Energy-related Product
EU	European Union
IEC	International Electrotechnical Commission
IUPAC	International Union of Pure and Applied Chemistry
SME	Small and Medium Enterprise
VT	Validation Team

4 The EN IEC 62474 standard

4.1 Material declaration according to EN IEC 62474

The process of tracking substances or groups of substances like CRMs used in products can be complex, especially for products with many product parts and long supply chains. Significant issues around the exchange of the information along the supply chain can be expected in cases where there is no uniform way to provide such information.

To facilitate the collection and declaration of information on the use of substances in products and product parts, IEC developed the standard IEC 62474 on material declaration. This document contains:

- a standardized list of declarable substances with standardized names to avoid misspelling (declarable substances list, DSL) and;
- a standardized format for declaration to ensure that declarations from different suppliers can easily be understood and exchanged.

EN IEC 62474 is developed for the reporting of substances and materials, standardizing protocols, and facilitating transfer and processing of data used by Electrical and Electronic Equipment. However, the format and rules prescribed by EN IEC 62474 are generic and can be applied to any substance list, provided that these formats and rules are followed strictly. Therefore, substances used in any type of products, including non-electrical and non-electronics ErPs (e.g. insulation material, windows, gas heaters), can be declared using EN IEC 62474.

EN IEC 62474 is not specifically linked to the reporting of hazardous substances. Rather, it is developed to manage declaration of regulated substances, independent of the reason for them being regulated. Therefore, EN IEC 62474 is able to manage CRMs, which are critical from an economic and supply risk perspective, but are not necessarily hazardous.

The flexibility of the EN IEC 62474 declaration format enables the supply chain to effectively associate the CRM to both the product and to a specific part of that product. For instance, one can declare a personal computer (product) with a motherboard (product part 1) with a coin cell battery (part of product part 1) that contains a CRM. This flexibility allows users to report on different or multiple levels of the product (part).

Consequently, this document uses EN IEC 62474 to specify the rules and format for sharing information on the use of CRMs in energy-related products.

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NOTE 1 EN IEC 62474 is used as basis for this document because it is an international standard, with global and European recognition. In Europe, IEC 62474 successfully followed a process called “parallel vote”, and now carries a dual logo from CENELEC and IEC, namely “EN IEC 62474”. Despite being developed for electrical and electronic equipment, it can be adapted to any type of industry, as long as the substance list and the data exchange format follow the requirements stipulated in IEC 62474.

NOTE 2 The data to be reported is often likely to be based on engineering judgment, supplier material declarations, and/or sampling and testing.

Further details on EN IEC 62474 are provided in Annex A. See also the IEC guide IEC/TR 62474-1 [9] and IEC 62474 online database [10].

4.2 Maintenance of IEC 62474 substances list

The IEC 62474 declarable substances list mostly includes regulated substances, but may also include non-regulated substances. More details on the process for inclusion of substances or substance groups in the IEC 62474 DSL is presented in Annex A (A1 and A2). The IEC 62474 DSL is maintained by the IEC VT 62474. The validation team updates information in the database based on rules specified in IEC 62474, generally triggered by updates in legislation. If a new CRM is regulated or if requirements of existing legislation are updated, it will be assessed and VT will decide whether or not it should be included into the IEC 62474 DSL.

The process for inclusion of a non-regulated substance in the list is more complex, and requires formal approval of the National Committees members of the IEC VT 62474 team.

5 Assessing and declaring the use of CRMs

5.1 Regulated CRMs

For regulated CRMs, a material declaration shall be provided. It should be prepared as specified in the applicable legislation.

The material declaration content shall meet the requirements specified in EN IEC 62474 for the applicable CRMs.

The declaration of regulated CRMs should be carried out according to the requirements and thresholds specified in applicable legislation. Typical requirements are:

- reporting of the name of the substance or substance group, as described in legislation;
- reporting the amount of the substance or substance group, as described in legislation;
- reporting the location of the substance in the product, if described by legislation;
- exemptions, if applicable.

NOTE The use of standards for such declarations helps ensure consistent and cost-effective flow of information throughout the supply chain.

5.2 Non-regulated CRMs

The provision of material declaration for non-regulated CRMs is voluntary. Therefore, for non-regulated CRMs, a material declaration may be provided.

Companies may still need to collect data on a CRM even if it is not regulated. EN IEC 62474 can also be used to collect this type of information. However, as non-regulated CRMs are not automatically included in the IEC Declarable Substance List, the manufacturers will need to create their own substance list.

The level of detail of voluntarily collected information can vary. When collecting information on non-regulated CRMs, it is up to the manufacturer to decide what kind of information they want to collect and determine the minimum requirements for the information, for instance:

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