IEC 62474

Edition 2.1 2020-12
CONSOLIDATED VERSION

INTERNATIONAL STANDARD

NORME INTERNATIONALE

colour inside

Material declaration for products of and for the electrotechnical industry

Déclaration de matières pour des produits de et pour l'industrie électrotechnique

IEC 62474:2018-11+AMD1:2020-12 CSV(en-fr)

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INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

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REDLINE VERSION

VERSION REDLINE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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MATERIAL DECLARATION FOR PRODUCTS OF AND FOR THE ELECTROTECHNICAL INDUSTRY

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.

IEC 62474 edition 2.1 contains the second edition (2018-11) [documents 111/498/FDIS and 111/503/RVD] and its amendment 1 (2020-12) [documents 111/511/CDV and 111/561/RVC].

In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.

International Standard IEC 62474 has been prepared by IEC Technical Committee 111: Environmental standardization for electrical and electronic products and systems.

This second edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) The material classes and exemption lists capabilities have been improved.

b) The introduction and scope have new diagrams and information to give a better overview of the standard and identify what information is mandatory, optional or conditionally mandatory.

c) Definitions have been added. Minimum requirements to be in conformance with the IEC 62474 standard are defined, including XML format as the officially accepted format. By defining an authority, list identity and list version, the standard format could be used for lists other than the IEC 62474 database.

d) Terms have been aligned for consistency throughout the document. For example, the “IEC 62474 database” was previously referred to as “IEC 62474 database”, “IEC 62474”, “IEC 62474 Database”, “IEC 62474 DB”.

e) The annexes have been removed as they are now contained within documents managed by the validation team 62474 (VT 62474). Annex A (Annex B in the previous edition) is provided for non-XML users as a reference only.

f) Two types of material declarations, declaration for compliance and composition declaration, and their requirements are defined.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62474 series, published under the general title *Material declaration for products of and for the electrotechnical industry*, can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

This document benefits the electrotechnical industry by establishing requirements for reporting of material declaration data, standardizing protocols, and facilitating the transfer and processing of data. Material declarations are used by the electrotechnical industry to track and declare specific product information used for compliance and/or environmentally conscious design (ECD) considerations. To simplify requirements across the supply chain and to improve economic efficiencies, it is important to standardize the exchange of product, product part, material and substance data, and provide requirements within material declarations.

IEC 62474 is made of two parts: this document, which contains requirements for material declarations and a database containing information such as a declarable substance list (DSL), exemption list and data exchange format (see Clause 8).

This document defines the two most common types of material declarations and their requirements:

1) Declaration for compliance – is always at a product level in reference to the list of declarable substances and declarable substance groups within the ~~IEC 62474~~ declarable substance list (DSL).
2) Composition declaration – is the much more detailed ~~product part level~~ reporting down to individual substances contained within the ~~IEC 62474~~ DSL.

The standard contains the IEC 62474 data exchange format and IEC 62474 lists, including the declarable substance list (DSL), material class list (MCL) and exemption list. IEC 62474 allows other lists to be used with the IEC 62474 data exchange format.

The IEC 62474 database is maintained by the validation team (VT 62474) which updates information in the IEC 62474 database based on requirements specified in the IEC 62474 standard (see Clause 8).

By fulfilling the requirements of the IEC 62474 standard and based on the information from the IEC 62474 database, two types of declaration can be created as shown in Figure 1 below.

- a declaration for compliance which is the information required to determine product compliance with substance regulations and market needs (see 4.4);
- a composition declaration that is the information required to assess where declarable substances above threshold are contained in the product (see 4.5).

The transmission of information in the supply chain can be done in two modes:

- Distribution mode: The supplier provides material declaration data about their product(s) to a recipient.
- Requester/responder mode: The requester determines the type of material declaration(s) the responder will provide.

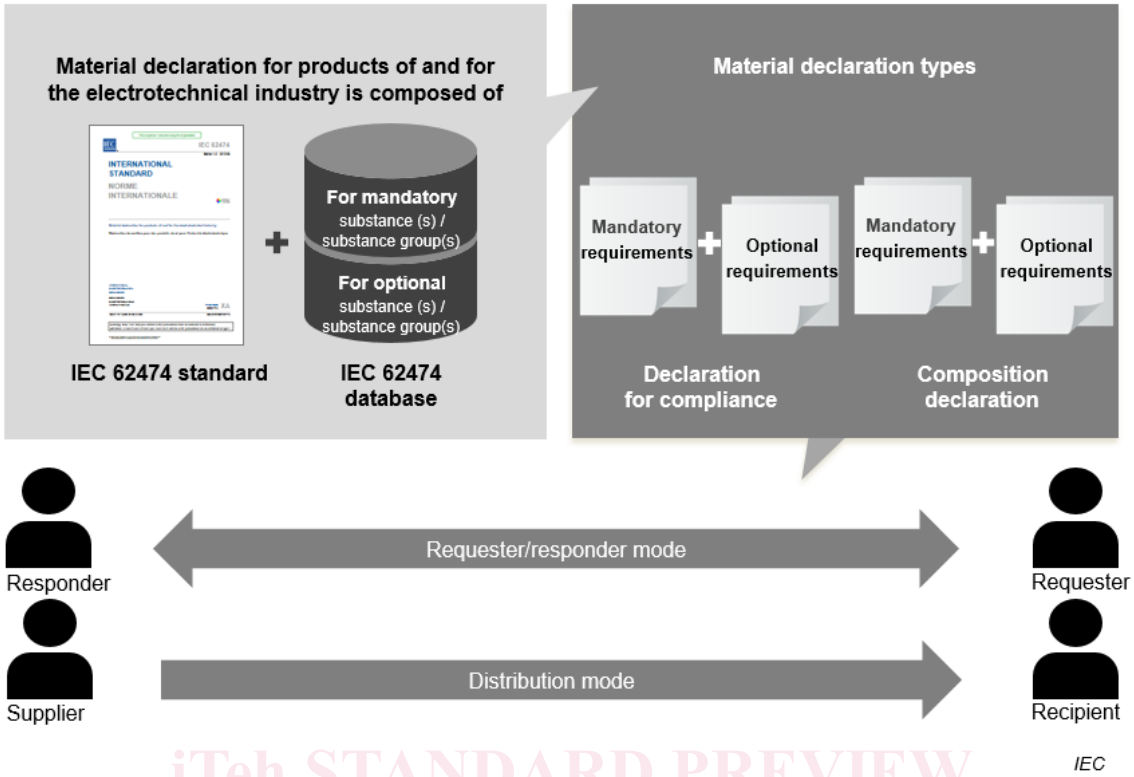

Figure 1 – IEC 62474 principles

The IEC 62474 principles are determined in the following clauses:

- Clause 4 specifies requirements for material declarations.
- Clause 5 specifies the criteria and thresholds for declarable substances (DSs), declarable substance groups (DSGs) and material classes in the IEC 62474 database.
- Clause 6 specifies the criteria for exemption lists in the IEC 62474 database.
- Clause 7 specifies the IEC 62474 database data format and exchange requirements with further information in Annex A (informative).
- Clause 8 specifies the IEC 62474 database maintenance process.

MATERIAL DECLARATION FOR PRODUCTS OF AND FOR THE ELECTROTECHNICAL INDUSTRY

1 Scope

This document specifies the procedure, content, and form relating to material declarations for products and accessories of organizations operating in and supplying to the electrotechnical industry. Process chemicals, emissions during product use and product packaging material are not in the scope of this document.

The main intended use of this document is to provide data up and down the supply chain that:

- allows organizations to assess products against substance compliance requirements,
- allows organizations to use this information in their environmentally conscious design process and across all product life cycle phases.

This document specifies mandatory declaration requirements and also provides optional declaration requirements.

This document does not suggest any specific method or process to capture material declaration data in the supply chain. However, it provides a data format used to transfer information within the supply chain. Organizations ~~have the flexibility to~~ can determine the most appropriate method to capture material declaration data without compromising data utility and quality. This document is intended to allow reporting based on engineering judgement, supplier material declarations, and/or sampling and testing.

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.

IEC 61360-1, *Standard data element types with associated classification scheme – Part 1: Definitions – Principles and methods*

IEC 61360-2, *Standard data element types with associated classification scheme for electric components – Part 2: EXPRESS dictionary schema*

ISO/IEC Directives, IEC Supplement, *Procedures specific to IEC*

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:

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

3.1
article
object which during production is given a special shape, surface or design which determines its function to a greater degree than does its chemical composition

[SOURCE: EU REACH Regulation (EC) No.1907/2006, Article 3]

3.2
composition declaration
quantitative declaration of substances contained within a product, product part, or material as applicable

3.3
data exchange format
data elements and attributes specified in an XML schema and developer's table to support a material declaration exchange

3.4
declaration for compliance
declaration regarding the presence or absence of declarable substances and declarable substance groups with mandatory reporting requirements in the IEC 62474 declarable substance list relative to a reporting threshold level for a defined reportable application

3.5
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.

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

3.6
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.

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

3.7
declarable substance group substance(s)
DSG substance(s)
substance(s) that belongs to a declarable substance group

3.8
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

Note 1 to entry: This note applies to the French language only.

3.9
declaration hierarchy
tree-like structure containing one or more branches that represents the relationship between product, product part(s), material(s) and/or substance(s) within a material declaration

Note 1 to entry: Figure 5 demonstrates a declaration hierarchy with a single branch

3.10
exemption
allowance for the use of regulated declarable substances or declarable substance groups above their threshold(s) as defined in laws or regulations

3.11
list authority
designated owner of a list

Note 1 to entry: The list authority is used in conjunction with the list identity and list version.

3.12
list entry identity
parameter used to identify a specific entry within a defined list

Note 1 to entry: For example, the IEC 62474 DSL entry identity would be used to identify a specific declarable substance or declarable substance group within its list.

3.13
list identity
parameter used to identify a specific list

Note 1 to entry: The list identity is used in conjunction with the list authority and list version.

3.14
list version
parameter used to identify a specific version of a list

Note 1 to entry: The list version is used in conjunction with the list authority and list identity.

3.15
material
substance or mixture of substances within a product or product part

3.16
material class
defined classification of materials that are established in the referenced IEC 62474 database for purposes of inventorying aspects of a product, such that no two classes contain the same materials

Note 1 to entry: If a material falls under multiple material classes, such as copper zinc alloy which can fall under copper and its alloys or zinc and its alloys, the substance with the largest mass within the material should take precedence.

3.17
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.

3.18
~~**mixture**~~
~~composite or solution composed of two or more substances in which they do not react~~

~~Note 1 to entry: An alloy is treated as a mixture.~~

Void

3.19
product
any goods or service

Note 1 to entry: This general definition of product is, in the context of this document, limited to any product of the product category "hardware" according to ISO 9000:2015, 3.7.6 of and for the electrotechnical and electronic industry (E&E).

Note 2 to entry: This general definition of product(s) used in Clause 4 specifies any goods or service of the responder.

3.20
product family
group of products each of which contains the same substances or material at a similar concentration level

Note 1 to entry: A common case would be an electrical component supplier having many products of the same substance content that have different electrical values, such as a capacitor, resistor, inductor or an integrated circuit.

3.21
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.

3.22
reference substance
individual substance entry within the reference substance list

3.23
reference substance list
RSL
list of substances belonging to declarable substance groups in the declarable substance list

Note 1 to entry: The list of substances in the RSL for a DSG may or may not be a complete or exhaustive list.

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

3.24
reportable application
intended use of a declarable substance or declarable substance group which determines its relevance for disclosure

Note 1 to entry: The use of reportable applications may be applicable to declarable substances, declarable substance groups, product parts and materials. Examples of product parts and materials are batteries, textiles and wood.

Note 2 to entry: As legislations have different scopes for some declarable substances, declarable substance groups, product parts or materials, more than one reportable applications are provided in the IEC 62474 database. This information supports the downstream manufacturer in the assessment ~~against declarable substance compliance~~ of conformity with requirements.