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**Material declaration –
Part 1: General requirements**

**Déclaration de matières –
Partie 1 : Exigences générales**



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

MATERIAL DECLARATION –**Part 1: General requirements**

FOREWORD

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IEC 82474-1 has been prepared by IEC technical committee 111, Environmental standardization for electrical and electronic products and systems, and Subcommittee 1: Environmental management systems, of ISO Technical Committee 207: Environmental management. It is an International Standard.

This first edition leverages previous work done in IEC 62474 (Material declaration for products of and for the electrotechnical industry), extending the application of the material declaration standard across all products of any industry sector that falls under the ISO and IEC scopes.

This edition includes the following technical changes with respect to IEC 62474:2018 (edition 2):

- a) Definitions were sharpened to fulfil needs from sectors other than electrical and electronic products and systems and new terms have been added that support new topics introduced such as webservice methods, material efficiency and circularity, and new reference list types.

- b) A new subclause (4.6) covering process chemical declaration was included. This subclause covers requirements related to the information required about process chemical substances, the applicable processes where they are used, and the respective product life cycle phase(s).
- c) A new clause (8) covering web services on material declaration was included. This clause covers requirements related to topics such as machine-machine communication, authentication service, and data representation.
- d) Requirements and guidance for the development of reference lists such as query list (QL), and application/exemption lists (AL/EL) were included.

This document has been given the status of a horizontal document in accordance with ISO/IEC Directives, Part 1.

The text of this International Standard is based on the following documents:

Draft	Report on voting
111/778/FDIS	111/807/RVD

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this International Standard is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

A list of all parts in the IEC 82474 series, published under the general title *Material declaration*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

- reconfirmed,
- withdrawn, or
- revised.

INTRODUCTION

This document benefits all industries by establishing requirements for reporting of

- substances and materials in products,
- material efficiency and circularity data,
- substances used in manufacturing and other stages of the product life cycle,

and by standardizing protocols, and facilitating the transfer, and processing of such data.

Material declarations are used by many industries to track and declare specific product information used for compliance, the preparation of product (digital) passports 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, substance and process chemical data (including material efficiency and circularity) and provide requirements within material declarations.

IEC 82474-1 consists of two parts: this document, which defines requirements for material declarations, and a standard as database (SDB) which is a managed collection of information containing the schema for data exchange format, the accompanying developer's table and other useful information.

This document provides requirements and recommendations for the following material declaration types:

- 1) Declaration for compliance – a summary declaration with reference to the declarable substances and declarable substance groups within the declarable substance list (DSL). The declaration for compliance provides aggregated data at the product level.
- 2) Composition declaration – a detailed declaration of individual materials and substances contained in the product and product parts.
- 3) Process chemical declaration – a declaration of substances within a declarable substance list used during manufacture or other product life cycle stages.
- 4) Material class declaration – a declaration of the types of materials (material classes) that are present in a product.
- 5) Query list declaration – a declaration providing predetermined statements (queries) with responses that are selected from a pre-defined set of choices (e.g. "True" and "False").

NOTE For the purpose of this document, product is the object of the declaration and can be a substance, material, mixture, article or combination thereof.

IEC 82474-1 also contains requirements and guidance for the format of reference lists, such as declarable substances lists.

IEC 82474-1 allows lists from different authorities to be used with the IEC/ISO 82474 data exchange format.

EXAMPLE IEC 62474 DSL, automotive GADSL, aerospace AD-DSL.

The IEC/ISO 82474 SDB is maintained by a database maintenance team or SDB team (called SDBT 82474 here) which updates information in the IEC/ISO 82474 SDB based on requirements specified in the IEC 82474-1 standard. Other list authorities may have their own maintenance teams, based on the rules of the specific list authority.

By fulfilling the requirements of IEC 82474-1 and based on the information from the IEC/ISO 82474 SDB, five types of declarations can be created as mentioned above and as shown in Figure 1.

The transmission of information in the supply chain can be done in two modes (see Figure 1):

- Requester/responder mode: The requester's specific product information is included before the material declaration request is sent to the responder. Requester determines the type of material declaration(s) the responder will provide.
- Distribution mode: The responder provides material declaration data about their product(s) to a recipient.

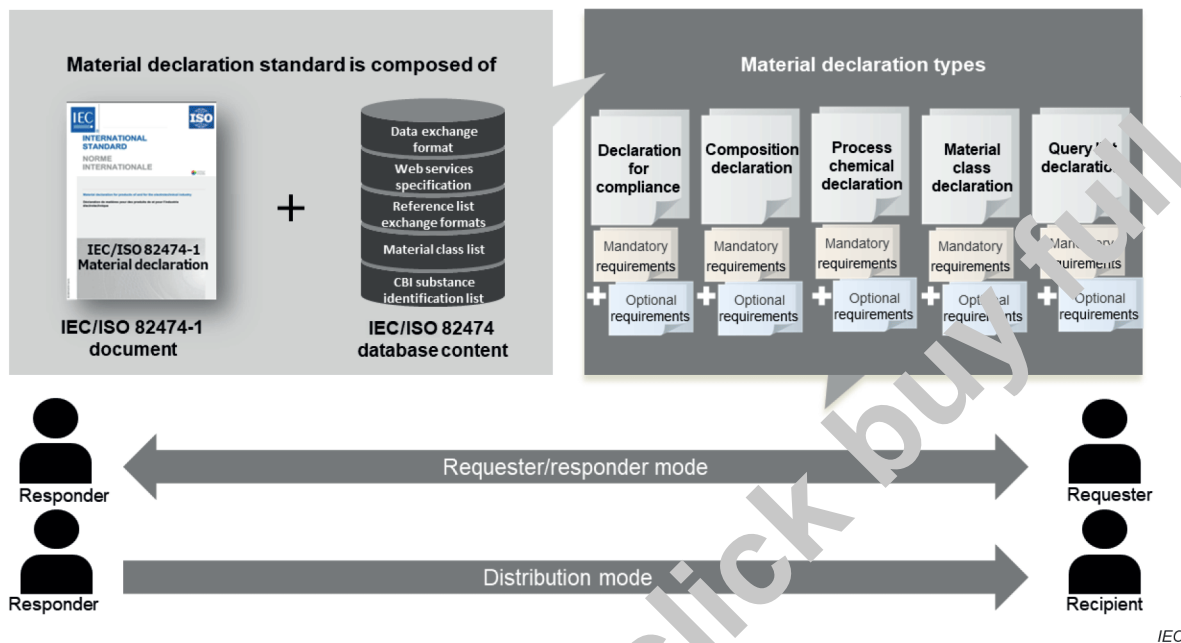


Figure 1 – IEC 82474-1 material declaration structure and process

The IEC 82474-1 declaration requirements and guidance are described in the following clauses:

- Clause 4 specifies requirements for material declarations.
- Clause 5 together with the IEC/ISO 82474 SDB specify the material declaration data exchange format and requirements.
- Clause 6 specifies requirements and provides guidance for developing reference lists. Additional specifications are given in Annex A.
- Clause 7 specifies requirements and provides guidance for developing cross-sector material class list (MCL).
- Clause 8 specifies the web services on material declarations with additional specifications in the IEC/ISO 82474 SDB.
- Clause 9 specifies the IEC/ISO 82474 SDB maintenance process.

MATERIAL DECLARATION –

Part 1: General requirements

1 Scope

This part of IEC 82474 specifies the requirements and guidance for the content, format and exchange relating to material declarations for products.

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

- allows organizations to assess products against material and substance requirements,
- allows organizations to assess process chemical substances used in manufacturing and other stages of the product life,
- allows organizations to use this information in their activities related to environmentally conscious design process and across all product life cycle stages
- allows organizations to obtain information about material efficiency and circularity of their products.

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

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

This document has the status of a horizontal publication in accordance with IEC Guide 123:2025.

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/ISO 82474 SDB (standard as database)

OASIS webservice security policy (version 1.2) (<http://docs.oasis-open.org/ws-sx/ws-securitypolicy/200702>)

W3C XML schema (<http://www.w3.org/2001/xmlschema>)

W3C webservice policy (<http://www.w3.org/ns/ws-policy>)

WSDL schema (<http://schemas.xmlsoap.org/wsdl>)