IEC 62474

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

Material declaration for products of and for the electrotechnical industry

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

IEC 62474:2012

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colour inside

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

COMMISSION ELECTROTECHNIQUE INTERNATIONALE

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

A database associated with this document is available at: http://std.iec.ch/iec62474. It contains the list of

- Declarable substance groups and declarable substances
- Reference Substances
- Material classes
- XML schema for data format and exchange and the accompanying developer table

The text of this standard is based on the following documents:

FDIS	Report on voting
111/243/FDIS	111/245/RVD

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

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

The committee has decided that the contents of this publication 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.

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INTRODUCTION

The electrotechnical industry tracks and declares specific information about the material composition of its products for compliance and environmentally conscious design requirements. The electrotechnical industry needs to gather information about the composition of products and product parts that are purchased from suppliers for incorporation into their products. Currently material declarations are driven by individual product manufacturer's specifications and there is no internationally accepted standardization. This results in economic inefficiencies. To simplify requirements across the supply chain and to improve economic efficiencies, it is necessary to standardize the exchange of material composition data and provide requirements for material declarations.

This International Standard benefits the electrotechnical industry by establishing requirements for reporting of substances and materials, standardizing protocols, and facilitating transfer and processing of data.

MATERIAL DECLARATION FOR PRODUCTS OF AND FOR THE ELECTROTECHNICAL INDUSTRY

1 Scope

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

The main intended use of this International Standard is to provide data to downstream manufacturers that:

- allows them to assess products against substance restriction compliance requirements
- they can use in their environmentally conscious design process and across all product life cycle phases

Clause 4 specifies requirements for a material declaration.

Clause 5 specifies the criteria for declarable substances and material classes in the IEC 62474 database associated with this standard.

Clause 6 specifies the data format and exchange requirements to be included in the IEC 62474 database.

Clause 7 specifies the process to regularly update and maintain the IEC 62474 database.

Although this International Standard specifies base requirements, it offers flexibility to product manufacturers and suppliers in the selection of additional requirements or information.

This International Standard does not provide any specific method to capture material composition data. Organizations have the flexibility to determine the most appropriate method to capture material composition data without compromising data utility and quality. This International Standard is intended to allow reporting based on engineering judgment, supplier material declarations, or on sampling and testing.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. 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 for electric items – 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*

IEC 61360-5, *Standard data element types with associated classification scheme for electric components – Part 5: Extensions to the EXPRESS dictionary schema*

ISO/IEC Directives Supplement: 2011, *Procedures Specific to IEC*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
absence declaration
negative declaration
statement that materials, substances or substance groups are not present in the product above their respective, specified threshold

3.2
declarable substance and declarable substance group
substance and substance group that meet the criteria stated in this International Standard and are specified in the IEC 62474 database

Note 1 to entry Such substances and substance groups are listed in the IEC 62474 database with either a mandatory or optional reporting requirement above the specified threshold in the IEC 62474 database.

3.3
homogeneous material
one material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be disjointed or separated into different materials by mechanical actions, such as unscrewing, cutting, crushing, grinding and abrasive processes

3.4
material
substance or mixture within a product or product part

3.5
material class
defined classification of materials that are established in referenced IEC 62474 database for purposes of inventorying aspects of a product, such that no two classes contain the same materials

3.6
mixture
preparation
mixture 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.

3.7
product
any goods or service

Note 1 to entry This general definition of product is in the context of this International Standard limited to any product of the product category “hardware” according to ISO 9000:2005 No. 3.4.2 of and for the electrotechnical and electronic industry (E&E).

3.8
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.

3.9
product part
sub-unit of a product or another (product) part

Note 1 to entry This is a recursive definition.

3.10
reference substance
individual substance designated as “reference” in the IEC 62474 database

3.11
reportable application
intended use of a substance which determines its relevance to a given scope and the threshold for disclosure

Note 1 to entry This use is defined in the scope of the underlying law or industry standard. Examples are batteries, textiles and wood.

3.12
reporting threshold level
concentration limit at or above which the presence of a substance in a material or product is declared if declaration of the substance is mandatory according to the IEC 62474 database, or if it is agreed on to be declared

3.13
substance
a chemical element and its compounds in the natural state or obtained by any manufacturing process, including any additive necessary to preserve its stability and any impurity deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition

[SOURCE: Globally Harmonized System of Classification and Labelling (GHS):2003, Chapter 1.2, Definitions and Abbreviations]

3.14
substance group
one or more substances, where in the case of multiple substances they share at least one chemical sub-structure, or chemical or physical property under a generic name

3.15
validation team
permanent, “executive”, group of experts appointed by and acting as delegates on behalf of their National Committees to validate proposed items and vote for their release as part of a database standard

Note 1 to entry All P-members have the right and duty to appoint their own member of the team. The validation team evaluates proposals and votes, using the normal database procedure, on items on behalf of their National Committees. The validation team reports to the technical committee or subcommittee.

Note 2 to entry The described procedure asks for very short response times from the validation team members. For this reason, the National Committees should appoint one or more deputies that can take over the task when the designated person, for any reason, is absent (travel, business, etc.).

Note 3 to entry It is up to the National Committee to decide for how long time a member should be appointed, and also to organize the possible supporting network of experts on National level.

Note 4 to entry The secretariat manages the validation team.

[SOURCE:ISO/IEC Directives Supplement:2011, Annex J]

4 Requirements for material declaration

4.1 General

This clause describes the base requirements and additional requirements for a material declaration. Subclause 4.2 describes the base data requirements and Subclause 4.3