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Procedure for the declaration of materials in products of the electrotechnical and electronic industry

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International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch

Commission Electrotechnique Internationale
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CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

PROCEDURE FOR THE DECLARATION OF MATERIALS IN PRODUCTS OF THE ELECTROTECHNICAL AND ELECTRONIC INDUSTRY

FOREWORD

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IEC-PAS 61906 has been processed by IEC technical committee 3: Information structures, documentation and graphical symbols.

The text of this PAS is based on the following document	This PAS was approved for publication by the P- members of the committee concerned as indicated in the following document
Draft PAS	**Report on voting**
3/750/NP	3/766/RVN

Following publication of this PAS, IEC technical committee 111: Environmental standardization for electrical and electronic products and systems, will transform it into an International Standard.

This PAS shall remain valid for an initial maximum period of three years starting from 2005-07. The validity may be extended for a single three-year period, following which it shall be revised to become another type of normative document or shall be withdrawn.

PROCEDURE FOR THE DECLARATION OF MATERIALS IN PRODUCTS OF THE ELECTROTECHNICAL AND ELECTRONIC INDUSTRY

1 Scope

This PAS describes the form and procedure relating to the declaration of materials in products of companies operating in the electrotechnical and electronic industry (E&E industry) and its supplier industry, including the operational materials contained in the products.

NOTE 1 The declaration provides product information which is the foundation for a database which can be referred to in order to solve the following tasks, for example:

- assurance of legal compliance;
- management of business risks;
- fulfilment of market requirements in relation to the products;
- market information;
- preparation of self-declared environmental claims;
- assessment of effects of products on people and environment;
- implementation of avoidance and replacement strategies, reduction in material proliferation;
- information for reprocessing and removal;
- reuse, recovery and safe disposal of products or product parts;
- carrying out of supplier audits.

These data will be supplemented by the obligations under chemical substances laws to furnish material safety data sheets and by information on occupational health and safety. The declaration governed by this specification should be taken into account in purchasing and delivery agreements.

NOTE 2 There might exist additional statutory requirements. Compliance with statutory regulations is the duty of the person placing the product on the market and is a prerequisite. This concerns, for example, materials in products for which restrictions have legally binding force in the legislative area applicable to the person placing the product on the market.

NOTE 3 This information on materials in products can be drawn upon, for example, when preparing life-cycle assessments in accordance with ISO 14040 ff. or environmental labels conforming to ISO 14020, ISO 14021, ISO 14024 or ISO 14025.

NOTE 4 Criteria for selecting materials and individual constituents to be declared are not yet elaborated in this specification.

NOTE 5 The depth of declaration can be the subject of an agreement between the parties involved.

NOTE 6 Material declarations constitute one of the tools within environmental management according to ISO 14062.

NOTE 7 The material declaration is subject to account being taken of agreements on confidentiality and protection of intellectual property along the process chain.

This PAS is intended for use by the technical committees in the drafting of standards as well as by the product suppliers for the declaration of materials in products of the E&E industry in conformance with the basic principles laid down in IEC Guide 113.

2 Normative references

The following referenced documents are indispensable for the application 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 Guide 113, *Materials declaration questionnaires – Basic guidelines*[1]

ISO 14020:2000, *Environmental labels and declarations – General principles*

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1 To be published.

3 Terms and definitions

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

3.1
product
result of labour or of a natural or industrial process

[IEC 61360-1]

NOTE This general definition of *product* is in the context of this PAS limited to any *product* of the product category “hardware” according to ISO 9000:2000 No. 3.4.2 of and for the electrotechnical and electronic industry (E&E).

3.2
product part
subunit(s) of a product

NOTE Many *products* consist of *product parts*, such as equipment enclosures, assembled printed circuit-boards and power supplies.

3.3
product subpart
subunit(s) of a product part

NOTE 1 A *product part*, such as an assembled printed circuit-board, consists, for example, of the *product subparts* bare printed circuit-board and components.

NOTE 2 The terms *product*, *product part* and *product subpart* can be reassigned at any value-adding assembly level in the E&E industry. A *product* from the supplier’s perspective may be a *product part* or *product subpart* from the customer’s perspective.

3.4
material
substance or *preparation* within a *product*, *product part* or *product subpart*

NOTE 1 The definition for *substance* and *preparation* conforms to that in the European Union and in the European Economy Area according to Directive 67/548/EEC. It also conforms to the definitions of the chemical *substances* laws, for example, of Japan and the USA.

NOTE 2 The inclusion of impurities in the classification and the explicit specification of the *individual constituents* (including impurities) of *substances* and *preparations* are governed by regulations, for example, in the European Union and in the European Economy Area in Annex VI of Directive 67/548/EEC. An impurity is a chemical element or chemical compound which occurs in a *substance* as a result of natural occurrence or by reason of technical necessities and which have not been added intentionally.

3.5
substance
chemical element and its compounds in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the *products* and any impurity deriving from the process used but excluding any solvent that can be separated without affecting the stability or changing its composition

3.6
preparation
mixture or solution composed of two or more *substances*

NOTE An alloy, i.e. metallic mixture, composed of at least two components, of which at least one is a metal, is a *preparation*.

3.7
individual constituent
individual *substance* or *preparation* of a *material*

NOTE Every *material* consists of at least one *individual constituent* and a *material* may also consist exclusively of a single *individual constituent*.

3.8
operational material
material that is not a constituent of a *product* but is necessary for the operation of the *product*

NOTE Examples of operational materials are refrigerants, lubricants and inks.

3.9
material group
grouping of a number of *materials* that share at least one property in common under a generic name

3.10
individual constituent group
grouping of a number of *individual constituents* that share at least one property in common under a generic name

4 Declaration of materials

4.1 Mandatory requirements

The declaration shall meet the following requirements.

a) The declaration shall clearly state whether it applies to the product alone or the product including shipping package and/or operational material.

b) The information given on materials in products shall relate to a specific product, product part or product subpart.

c) Generally only materials actually present in the product when delivered, and only individual constituents actually present in the materials, shall be declared, see, however, also f) regarding absence of materials and substances. Concentrations above which materials and individual constituents are declared in their uses shall be specified (declaration limits).

NOTE Generally only materials and individual constituents with concentrations greater than 0,1% by weight (or 0,2% by volume for gases) need be declared. However, it can be necessary to declare lower concentrations due to statutory or other provisions.

d) Information on concentration and mass of materials shall be related in each case to the product, the product part or the product subpart. Concentration information concerning individual constituents shall be related to the materials.

e) Concentration information concerning individual constituents shall be related to the materials.

f) In the case of restricted materials or individual constituents due to legal or other provisions (for example, for fulfilling environmental claims according to ISO 14020), reference shall be made to the absence of such materials or individual constituents above a relative or absolute value to be specified (absence criteria).

NOTE 1 Declarations on statements relating to the absence of certain materials may be referred to the product if they also apply to all product parts and all product subparts. An absence declaration may, for example, declare that the product, the product part or the product subpart is "lead-free". However, the meaning of "lead-free" should be defined insofar as it is not governed by legal provisions. Otherwise, a reference to the regulation is sufficient.

g) Reasonable tolerances for declared concentrations and masses due to the production processes need not be reported explicitly.

h) An operational material shall be assigned to the product, product part or product subpart that requires it.

NOTE If a variety of operational materials can be used, the most typical ones should be specified.

i) The materials and individual constituents shall be unambiguously characterized, either by means of internationally recognized names and suitable identification numbers (for example, CAS Registry numbers (CASRN)) or by names defined in a standard.

NOTE 1 CAS Registry Numbers (CASRN), which are often simply called CAS numbers, are assigned to chemical substances by the Chemical Abstracts Service.

NOTE 2 Examples of existing standards with designations for identification of materials: ISO 1043-1, ISO 1043-2, ISO 1629.

j) The reporting format of the declaration of materials in products of the E&E industry should take account of the requirements of electronic data processing. Data acquisition, processing and exchange should likewise be effected electronically.

k) SI units shall be used.

NOTE For *presentation* purposes in documents and on screens, the SI unit together with relevant SI prefixes are preferred in order to get easily readable and understandable values.

For *representation* purposes in communication among computers, the basic or coherent SI units are preferred in order to make the values unambiguously computer sensible.

l) The material declaration shall be provided either as

- a separate document, based on a template specific for the purpose and containing at least the data element types specified in Annex A;
- as part of another document, for example, a data sheet, blank detail specification, etc. for the product, among other data element types containing also the data element types specified in Annex A; or
- for computer sensible information: the data element types specified in Annex A, applying a previously agreed file format, got example, in XML notation.

NOTE Further information on data element types used in declarations of materials is provided in Annex A.

4.2 Options

The declaration may also meet the following requirements.

a) If it is possible to define a product class in which the members from a material point of view have an identical specification, then one common material declaration may be prepared, valid for all members of this product class.

NOTE Such a product class is also called "product family".

b) Instead of the information on materials and individual constituents, material and individual constituent groups may be specified.

NOTE See Annex A for relevant data element types.

c) It may be agreed between the contracting partners that product parts or product subparts, the relative or absolute mass of which is below an agreed value, may be excluded from the declaration (exclusion criteria). Such exclusions and exclusion criteria shall be documented in the material specifications.

d) Materials and individual constituents that are to be declared might usefully be itemized in an agreed list, with declaration limits.

NOTE 1 Suitable generic name for substances are given, for example, in Article 15 of the Directive 1999/45/EC.

NOTE 2 Details of material declarations as on the materials and the individual constituents to be declared, on declaration limits, on values defining absence criteria and on exclusion criteria may be defined in an agreement accepted by the supplier and the customer prior to a declaration.

4.3 Product assembly

Up to three declaration levels are specified for the declaration of a product, although it is not necessary to use all three levels. Product assembly shall be based on the following scheme.

– Level 1: Product

– Level 2: Product parts *i* of the product. They shall be unambiguously assigned to the product.

– Level 3: Product subparts *i.j* of product part *i*. They shall be unambiguously assigned to product parts *i*. If the details specified are not sufficient to allow the materials to be localized, information enabling unambiguous localization should be attached (for example, general drawings).

NOTE 1 This specification does not give rules for defining the levels; however, they might be elaborated later.

An example of product assembly along the value-added chain is shown schematically in Figure 1.

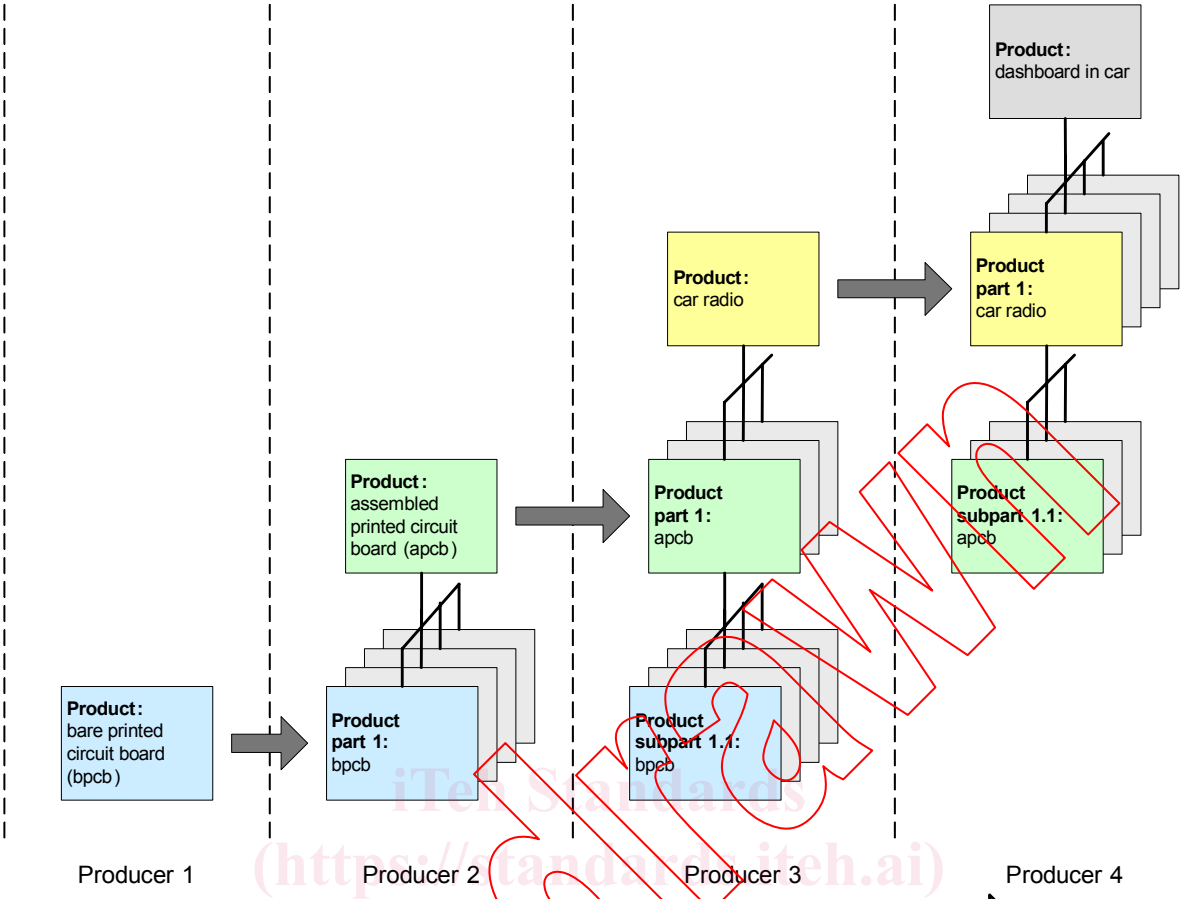

Figure 1 – Schematic representation of a possible product assembly along the value-added chain