



IPC-1751A with Amendment 1

Generic Requirements for Declaration Process Management

Developed by the Supplier Declaration Subcommittee (2-18) of the Data Generation and Transfer Committee (2-10) of IPC

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Users of this publication are encouraged to participate in the development of future revisions.

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FOREWORD

This standard provides the principles and details for declarations necessary between members of a supply chain relationship. This standard is the first in a series of standards that permits segmentation of declaration details based on the subject and scope of the declaration as well as the manufacturing domain. This standard contains general information and is supplemented by Sectional standards requiring more detailed information such as material declarations, quality profiles, or codes of conduct.

As an example, Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment requires information on a list of banned substances. These substances can be reported within one of the Sectional standards of the **175x** series. In particular, the Sectional standard (IPC-1752) establishes information exchange requirements regarding the substances and materials that comprise the bulk material, component, Printed Circuit Board (PCB), sub-assembly, etc.

Since the 175x standards are designed to be implemented in software tools, the standard is comprised of two types of specifications: (1) defining the minimal functional requirements for compliant software, and (2) defining the data format and structure for exchange. The data format is based on an Extensible Markup Language (XML) schema, which in turn is represented by a Unified Modeling Language (UML) model. All **175x** compliant software **shall** conform to the appropriate UML model. Any 175x data exchange **shall** conform to the XML schema requirements as herein specified in order to comply with this standard. Such XML data can be extracted by the requester to automate the data transfer into his internal systems, thereby insuring accurate, efficient, and reliable communication.

This standard is designed to serve the public interest by facilitating the transfer of information along the supply chain through a common data model and XML schema. Existence of such standards and publications shall not in any respect preclude any member or nonmember of IPC from manufacturing or selling products not conforming to such standards and publications, nor shall the existence of such standards and publications preclude their voluntary use by those other than IPC members, whether the standard is to be used domestically or internationally.

In this revision of the 175x series, only the data format and functional requirements are specified. Development of human readable data entry and viewing tools are intentionally left in the domain of third party software providers.

Acknowledgment

Any document involving a complex technology draws material from a vast number of sources. While the principal members of the Supplier Declaration Subcommittee (2-18) of the Data Generation and Transfer Committee (2-10) are shown below, it is not possible to include all of those who assisted in the evolution of this standard. To each of them, the members of the IPC extend their gratitude.

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Generic Requirements for Declaration Process Management

1 SCOPE

This standard provides the principles and details necessary for declarations between members of a supply chain. Although this 1751A standard contains only generic information regarding trading partners, when combined with another specific 175x Sectional standard, the resulting document set is used to define and maintain the declaration information. The requirements pertain to both hard copy and electronic data descriptions. This standard provides for the creation of a record between trading partners, and therefore the data communicated may be used to help support and demonstrate due diligence in any subsequent representation based upon its contents.

1.1 Purpose The purpose of the standard is to establish a methodology for a product or business attribute declaration process between suppliers and their customers which will define the form, structure, and content of the declaration to such an extent that it may be conveyed electronically without the necessity of human intervention. The standard benefits its adherents by providing consistency, efficiency, and integrity to the declaration process.

The purpose of this document is also to describe in text what the electronic data content consists of, so that its capabilities can be assessed, judged, and adopted by those in need of such a standardized approach to information exchange.

Because organizations may choose to verify information provided under this standard, brief procedures are described within this standard for such verification (see Section 8).

1.2 Intent The intent of the 175x standard set is to establish a standard data exchange format that will facilitate, improve, and secure data transfer between all members of a supply chain.

The intent of the 1751A standard is to define the generic information comprising the basis for such data exchange: who is requesting or making the declaration, basic identification and contact information for the party or parties involved, if there is a requester, then who is the recipient of the request, when is this happening, and similar basic information. The 1751A standard then intends to provide definition of the electronic data exchange format sufficient to convey mandatory and optional data contents.

IPC-1751A is “generic” because it specifies only basic identification and communication information which form the basis for further specific declarations. IPC-1751A is therefore intended to be used in conjunction with other 175x standards as needed which may be employed similar to menu items, building on the 1751A foundation.

Part of the intent is also to provide mechanisms for securing the integrity of the information exchanged.

1.3 Documentation Hierarchy This 1751A standard establishes the generic requirements for a declaration process used to provide information with respect to a specified product or products on subjects of concern arising in the course of conducting business.

Declaration specifics are defined by each standard in the IPC-175x series of standards. Each standard has a specific focus and **shall** be used, as appropriate, to describe a particular declaration process. The Sectional standards and their focus are:

Version 2.0:

IPC-1751A Generic Requirements for Declaration Process Management

IPC-1752A Materials Declaration Management

IPC-1756 Manufacturing Process Data Management

IPC-1758 Declaration of Shipping, Packing and Packaging Materials

Future Sectionals:**IPC-1753** Chemical Analysis Lab Report Standard**IPC-1755** Conflict Minerals Data Exchange Standard**IPC-1759** Declaration of Batteries and Battery Materials

1.4 Interpretation The word “shall,” the emphatic form of the verb, is used throughout this standard whenever a requirement is intended to express a provision that is **mandatory**. Deviation from a “**shall**” requirement may be considered if sufficient data is supplied to justify the exception. The words “should” and “may” are used to express non-mandatory provisions intended to be recommendations. “Will” is used to express a declaration of purpose related to the text description. To assist the reader, the word “**shall**” is presented in bold characters.

1.5 Presentation All dimensions in the 175x standard series are expressed in metric units with millimeters the main form of dimensional expression. Inches may be shown in brackets as appropriate and are not always a direct conversion depending on round-off discrepancies or the required precision. Users are cautioned to employ a single dimensioning system and not intermix millimeters and inches. The measurement of volume and mass (weight) **shall** also be in SI units. Reference information is shown in parentheses ().

2 APPLICABLE DOCUMENTS

The following documents form a part of this standard to the extent specified herein. The revision of the document in effect at the time a declaration is produced **shall** take precedence.

2.1 IPC Standards**IPC-T-50** Terms and Definitions**W3C XML:** <http://www.w3.org/XML/>**W3C XML Schema:** <http://www.w3.org/XML/Schema>**3 REQUIREMENTS**

The following requirements are applicable to all the IPC-175x series of declaration management standards. In the event that a particular requirement does not apply, the alternate methodology is defined in the Sectional standard.

3.1 Terms and Definitions The definition of all terms **shall** be in accordance with IPC-T-50 and the following. An asterisk (*) by the term indicates that it is a reproduction from IPC-T-50 and is provided to assist the reader in interpretation of this standard.

3.1.1 Compliance Demonstration of meeting a government regulation, law, or directive.

3.1.2 Due Diligence Actions exercised and reasonable steps taken to avoid misrepresentation or committing of an offense.

3.1.3 Producer Any company or organization that, irrespective of the selling technique, manufactures and sells electrical and electronic equipment under their own brand, or resells under their own brand equipment produced by other suppliers, or imports/exports electrical and electronic equipment on a professional basis.

3.1.4 Product Any item such as substance, material, sub-part, part, sub-assembly or assembly that is the subject of a declaration.

3.1.5 Product Object One or more products grouped together for the purpose of associating selected IPC-175x Sectional information to the grouping such that the provided information applies equally to each member of the grouping, thus alleviating the necessity for the supplier to provide the same information multiple times (see 5.2).

3.1.6 Requester The party initiating the 175x communication when using the request/response communication mode. The requester is the recipient of the supplier’s response.

3.1.7 Subproduct An entry applied to a product object for the purpose of defining a portion of that product per the supplier's bill of materials, engineering documentation, or other logical structure. Subproducts may have their own subproducts; the number of subproduct levels is limited by logic and not the IPC-175x schema. The supplier provides all subproduct information. Requesters do not enter subproducts (see 5.2.2).

3.1.8 Supplier The organization or company responsible for providing the goods and/or services required to produce an electrical or electronic product.

3.1.9 User The individual, organization, company or agency responsible for the procurement of electrical/electronic hardware, having the authority to define the class of equipment and any variation or restriction (i.e., the originator/custodian of the contract detailing these requirements).

4 FAMILY OF STANDARDS

This standard establishes the generic requirements for the declaration process herein defined. The standard becomes a **mandatory** part of any of the Sectional standards that are identified as part of the 175x series. The details are substantiated through the use of UML information. The specific requirements for the 1751A portion of this declaration system include naming the requester if there is one, naming the supplier to whom the request is addressed, or who is providing the declaration if not specifically requested, naming the product or products to which the declaration applies, and providing relevant ancillary information to facilitate and validate the information exchange.

4.1 Generic Declaration (IPC-1751A) This document covers requester and/or supplier company information, the products covered, a selection for detailed Sectional data (presently 1752A and 1756), with an optional electronic signature and a statement addressing legal validity. Either the supplier or the requester may initiate the form. See Section 5 for details.

An inquiry coming from a requester to a supplier should include the requester company and contact information, their product number(s) and supplier's manufacturing number(s), the type of information (per IPC-175x Sectionals and Subsectionals) and legal commitment requested. It **shall** also include identification of the product or products for which the information is requested.

In response, the supplier may then provide their company and contact information and the data being requested for the products the requester identifies.

If a supplier is simply offering a declaration without a specific request, the supplier will enter their company and contact information and indicate their preferred legal commitment. The supplier will also then provide the detail of data pertaining to the named product or products per the provisions of IPC-175x Sectionals and Subsectionals that the supplier selects.

The form type, whether Request/Reply (if one company is requesting a declaration from a supplier) or Distribute (if a supplier is proactively offering a declaration), **shall** be specified by the originator of the form.

4.2 Materials Declaration Management (IPC-1752A) The details regarding the exchange of materials declaration data are defined in IPC-1752A. A UML data model with the corresponding XML schema is provided to facilitate the information exchange between the producer and the customer.

IPC-1752A materials information is associated with the generic 1751A Sectional information by selecting "MaterialInfo." When the 1752A Sectional standard is so chosen, an additional selection of one or more 1752A Subsectionals is thereby necessitated. See IPC-1752A for a description of the four Subsectional alternatives. Also see Clause 5.2 for associating 1752A information with a product object.

4.3 Chemical Analysis Lab Report Standard (IPC-1753) This standard will standardize the lab report format for gathering and communicating information on testing data for chemicals in products. This standard will facilitate the exchange of lab reports between supply chain members by having a standardized lab report format and way to exchange the information contained in the lab reports. This standard uses the generic standard, IPC-1751A, to provide business information and the product definition to which the declaration applies.

4.4 Conflict Minerals Data Exchange Standard (IPC-1755) This standard will support the electronic exchange of data needed by companies complying with regulations and customer requirements for information about conflict minerals contained within a company's products. The new standard will use the generic standard, IPC-1751A, to provide company information.

4.5 Manufacturing Declaration Management (IPC-1756) The IPC-1756 standard contains manufacturing information. In version one of 175x this information was included in 1752A, but it has been moved to the IPC-1756 Sectional and expanded. This standard uses the generic standard, IPC-1751A, to provide business information and the product definition to which the declaration applies. See paragraph 5.2 for associating 1756 information with a product object.

4.6 Declaration of Shipping, Packing and Packaging Materials (IPC-1758) The IPC-1758 standard contains shipping, packing, and packaging materials information. This standard uses the generic standard, IPC-1751A, to provide business information and the product definition to which the declaration applies. See paragraph 5.2 for associating 1758 information with a product object.

4.7 Declaration of Batteries and Battery Materials (IPC-1759) This standard will provide companies complying with battery regulations and customer requirements the ability to report on battery-specific information. The new standard will use the generic standard, IPC-1751A, to provide company information.

5 DATA REQUIREMENTS FOR GENERIC DECLARATION

The data requirements for the declaration process management concepts, consists of two modes of data exchange. The first mode is that of “Request/Reply” where a user wishes to obtain information about a product. The second mode is that of “Distribute” where a supplier wishes to make product information available to potential customers.

5.1 Requester Information This information describes the company and person who are requesting a declaration. This information is only relevant when a request/response model is being followed using one of the Sectional standards. This section of the data model contains several fields that identify the company and the individual requesting a particular declaration. Each field is described in the following paragraphs.

5.1.1 Company Information

5.1.1.1 Company Name This field identifies the legal name of the company requesting the declaration document. This field is *mandatory*.

5.1.1.2 Company Unique ID These fields are used by industry to uniquely identify the requester company. For example, in the U.S. a Dun & Bradstreet Data Universal Numbering System (DUNS) number is a commonly used unique identification (ID). This field is *optional*.

5.1.1.2.1 Unique Identity This field identifies the name or known designation of the requester company. This field is optional.

5.1.1.2.2 Unique ID Authority This field identifies the organization that assigns the unique ID. In the example above, Dun & Bradstreet would be the authority assigning the unique ID. This field is *optional*.

5.1.2 Request Information

5.1.2.1 Request Date This field identifies the date when a user requests a declaration document. All date fields use the XML date format. This field is *mandatory*.

5.1.2.2 Request Document ID This field identifies the request to help the user and supplier reference the communication. A revision method should be established to identify different configurations of the same request. The methodology may be simply a single letter or date that establishes the appropriate linkage. This field is *optional*.

5.1.2.3 Comment This field provides additional information to the supplier regarding the request. This field is optional (see 5.1.4.1).

5.1.2.4 Respond By Date This field identifies the date when the supplier is expected to respond to the request for information. This field is *optional*.

5.1.2.5 Internal Supplier ID This field identifies a company's internal designator for a supplier. It might be a name or a supplier identification code. This field is *optional*.

5.1.2.6 Field Lock The field lock attribute permits the requester to lock in the company name, request date, contact information etc. This field is *optional*. The lock should operate so that the Requester can create an XML file with data he/she does not want changed, and then lock only those fields. Similarly, the Supplier should be able to lock its provided data to ensure its integrity.

5.1.2.7 Supplier Check Box The supplier check box allows the supplier to provide the manufacturing item version and manufacturing site information for the request. If the check box is initiated the request becomes **mandatory**. The requester should not lock the fields if this data entry is required by the supplier.

5.1.3 Contact Information

5.1.3.1 Contact Name This field identifies the name of the person to contact with questions about the request for declaration. This field is **mandatory**.

5.1.3.2 Contact Title This field identifies the title of the contact person. This field is *optional*.

5.1.3.3 Comment This field provides additional information to the supplier regarding the requester contact information. This field is *optional* (see also 5.1.4.1).

5.1.3.4 Contact Phone This field identifies the telephone number for the contact person. This field is **mandatory** and consists of two attributes: the first is the phone number and the second is the phone type, e.g., business, personal, mobile etc. There may be multiple phone listings for the requester contact.

5.1.3.5 Contact Email This field identifies the email address for the contact person. This field is **mandatory** and consists of two attributes: the first is the email address and the second is the email type e.g., general office, personal, department etc. There may be multiple email listings for the requester contact (see also 5.1.4.1).

5.1.3.6 Additional Contact Information - Address The requester may provide a physical address as part of the requester contact information. These fields are *optional*.

5.1.3.6.1 Internal Any internal routing information necessary.

5.1.3.6.2 Street The street number and name.

5.1.3.6.3 City The name of the city.

5.1.3.6.4 State The state or province.

5.1.3.6.5 Country The country.

5.1.3.6.6 Zip Code The postal code.

5.1.3.6.7 Comment Additional comments related to the contact or contact information.

5.1.4 Other Descriptions

5.1.4.1 Requester Comments or URL for Additional Information This field provides additional information to the supplier, such as definitions of the authorized representative field in the supplier information section, submission instructions, additional contact information, or information relating to fields in the Sectional standards. These can be provided either directly or by a URL address which shows where the additional information can be obtained. If a URL is provided it should be of the form **http://xxx.xxx.xxx**. This field is *optional*.

5.1.4.2 E Business Information - Attachment One to many attachments may accompany the request for information that is exchanged between the user and the supplier. This field is *optional* however when initiated, requires several attributes. The first of these is the name of the attachment since there are multiples that may be attached and the comments provided should reference the appropriate one. The second is the file type which defines the method that may be used to read the data. The final attribute is the data file itself (see also 9.1.7).

5.2 Product Information The 175x series of standard is based on the concept of products (as defined in 3.1.4 of this document). A product object, therefore, is simply an identification of a product or group of products to which Sectional information is associated using the IPC-175x schema. The declaration **shall** contain one or more product objects. Each product object may represent one or more products as defined in the product ID fields.

Products within a product object may be identified using multiple product numbers or with a single product number representing an entire family of products. If a single product number is used to represent a family of products, requester and supplier are advised to clarify the correspondence between requester product identification and supplier product identification to ensure that supplier information associates correctly with requester product numbers.

Each product object **shall** require selection of specific Sectional information to be associated with it, such that the sectional information provided is true and correct for all members of the product object. Products included in each product object must therefore be chosen according to this principle. If products listed in a product object do not share Sectional information to be applied to them, then the product object **shall** be redefined so that only those products are included in the product object for which the Sectional information provided is true and correct. A new product object may be defined to address those products for which a different Sectional response is required. More than one IPC-175x Sectional may be associated with each product object.

By selecting from the Sectionals, a requester or supplier associates the mechanisms for providing information specific to those Sectionals as they pertain to the product or products identified according to this 1751A Sectional. By selecting “MaterialsInfo,” the 1752A Sectional is related to the 1751A information. If MaterialsInfo is selected, a selection of IPC-1752A Subsectionals is also required. By selecting “ManufacturingInfo,” the 1756 Sectional information is related to the 1751A information.

As stated above, the product object contains the identifying information and additionally contains the associated Sectionals, which the requester selects if in Request/Response mode or which the supplier chooses if in the Distribute mode.

The following fields provide information identifying each product object of interest.

5.2.1 Requester Product Number This field identifies the requester’s number for each product included in the product object. In the request/response mode this field is *optional*. The requester is cautioned to include only those product numbers for which requested Sectional information will be identical. A new product object may be defined for other products or product families for which a different Sectional response is anticipated. The first product number listed in the product object definition is the primary one for database structuring purposes as necessary in specific implementations of the required schema.

5.2.2 Requester Product Name This field identifies the name of the each product in the requester’s system corresponding to each product number. This field is *optional*.

5.2.3 Manufacturer’s Product Number This field identifies the number for each product in the supplier’s (manufacturer’s) system as perceived by the requester. This field is *mandatory*. In the Distribute mode the supplier provides the Manufacturer’s Product Number.

5.2.4 Manufacturer’s Product Name This field identifies the name for each product in the supplier’s (manufacturer’s) system as perceived by the requester. This field is *optional*. In the Distribute mode the supplier provides this entry for each product number.

5.2.5 Manufacturer’s Product Version This field identifies the version of the product in the supplier’s (manufacturer’s) system as perceived by the requester. This field is *optional*. In the Distribute mode the supplier provides this entry for each product number.

5.2.6 Manufacturing Site This field identifies the site at which the product is manufactured as perceived by the requester. This field is *optional*. In the Distribute mode the supplier provides this entry for each product number.