

IPC-1752B

2020 - June

Materials Declaration Management Standard

Supersedes IPC-1752-WAM1,2 &
January 2018

An international standard developed by IPC



BUILD ELECTRONICS BETTER

The Principles of Standardization

In May 1995 the IPC's Technical Activities Executive Committee (TAEC) adopted Principles of Standardization as a guiding principle of IPC's standardization efforts.

Standards Should:

- Show relationship to Design for Manufacturability (DFM) and Design for the Environment (DFE)
- Minimize time to market
- Contain simple (simplified) language
- Just include spec information
- Focus on end product performance
- Include a feedback system on use and problems for future improvement

Standards Should Not:

- Inhibit innovation
- Increase time-to-market
- Keep people out
- Increase cycle time
- Tell you how to make something
- Contain anything that cannot be defended with data

Notice

IPC Standards and Publications are designed to serve the public interest through eliminating misunderstandings between manufacturers and purchasers, facilitating interchangeability and improvement of products, and assisting the purchaser in selecting and obtaining with minimum delay the proper product for his particular need. 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 Publication, 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 either domestically or internationally.

Recommended Standards and Publications are adopted by IPC without regard to whether their adoption may involve patents on articles, materials, or processes. By such action, IPC does not assume any liability to any patent owner, nor do they assume any obligation whatever to parties adopting the Recommended Standard or Publication. Users are and are wholly responsible for protecting themselves against all claims of liabilities for patent infringement.

IPC Position Statement on Specification Revision Change

It is the position of IPC's Technical Activities Executive Committee that the use and implementation of IPC publications is voluntary and a part of a relationship entered into by customer and supplier. When an IPC publication is updated and a new revision is published, it is the opinion of the TAEC that the use of the new revision as part of an existing relationship is not automatic unless required by the contract. The TAEC recommends the use of the latest revision. Adopted October 6, 1998

Why is there a charge for this document?

Your purchase of this document contributes to the ongoing development of new and updated industry standards and publications. Standards allow manufacturers, customers, and suppliers to understand one another better. Standards allow manufacturers greater efficiencies when they can set up their processes to meet industry standards, allowing them to offer their customers lower costs.

IPC spends hundreds of thousands of dollars annually to support IPC's volunteers in the standards and publications development process. There are many rounds of drafts sent out for review and the committees spend hundreds of hours in review and development. IPC's staff attends and participates in committee activities, typesets and circulates document drafts, and follows all necessary procedures to qualify for ANSI approval.

IPC's membership dues have been kept low to allow as many companies as possible to participate. Therefore, the standards and publications revenue is necessary to complement dues revenue. The price schedule offers a 50% discount to IPC members. If your company buys IPC standards and publications, why not take advantage of this and the many other benefits of IPC membership as well? For more information on membership in IPC, please visit www.ipc.org or call 847/597-2809.

Thank you for your continued support.



IPC-1752B

Materials Declaration Management Standard

Developed by the Materials Declaration Task Group (E-31b) of the
Supplier Declaration Subcommittee (E-31) of IPC

Supersedes:

IPC-1752A-WAM1,2,3 -

January 2018

IPC-1752A with Amendment 1

and 2 - February 2014

IPC-1752A with Amendment 1 -

November 2012

IPC-1752A - February 2010

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

Contact:

IPC

3000 Lakeside Drive, Suite 105N

Bannockburn, Illinois

60015-1249

Tel 847 615.7100

Fax 847 615.7105

This Page Intentionally Left Blank

Acknowledgment

Any document involving a complex technology draws material from a vast number of sources across many continents. While the principal members of the Materials Declaration Task Group (E-31b) of the Supplier Declaration Subcommittee (E-31) 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.

Supplier Declaration Subcommittee	Materials Declaration Task Group	Technical Liaison of the IPC Board of Directors
Co-Chairs Walter Jager ECD Compliance	Co-Chairs Aidan Turnbull BOMcheck	Bob Neves Microtek (Changzhou) Laboratories
Randy Flinders GreenSoft Technology	JB Hollister Apple Mark Frimann TI	
Materials Declaration Task Group		
Bernie Henn, 3E Company	Rich Carrie, Cisco Systems Inc.	Alisa Peterson, Intel Corporation
Rob Stemm, 3M	Riccardo Corridori, COCIR	Clara Ramon, iPoint-Systems GmbH
Jason Gooden, Anthesis	Douglas Pauls, Collins Aerospace	Koshi Kamigaki, JEMAI
Adam Wheeler, Anthesis	Jan Severijns, CommScope	Masamitsu (Matt) Aoki, JETPA
Dave Horrigan, APD Communications Ltd	Manish Patel, Cummins Inc.	Andre Overbeck, JVC
JB Hollister, Apple Inc.	Jean-Pierre Theret, Dassault Systemes	David DeVore, Lexmark International
Tarja Sivonen, Arcadis Belgium	Michael Zepp, Dassault Systemes	Stefan Lehmacher, Lumberg Connect GmbH
James Calder, Assent Compliance Inc.	David Carnevale, Delphy Laboratories	Lutz Kaseberg, Lumileds
Valerie Kuntz, Assent Compliance Inc.	Chuck LePard, DXC Technology	Marcus Schneider, Marcus Schneider
Raj Takhar, Assent Compliance Inc.	Ashfaqueza Syed, DXC Technology	Raymond Sharkey, Micro Engineering
Roman Weber, Avnet EMG GmbH	Walter Jager, ECD Compliance	Jonathan Atkins, Motortronics UK Ltd
Axel Brenner, axpertis GmbH	Melanie Cousineau, Environment Canada	Manuel Suarez, Mr. Manuel Jesus Suarez
Antonio Clemente, Baker Hughes	Dahu Su, EZGlobal Network Service Inc.	Sara Monegato, Nestlé System Technology Centre Orbe (NSTC)
Michael Keresztesy, Baker Hughes	Rakesh Ramesh, Flextronics Shah Alam Sch Bhd C/o Flextronics Technologies (I) Pvt Ltd	David Ginsburg, Omron Electronics LLC
Jan Daem, Barco NV	David Dixon, GE Healthcare	Matthew Dion, opesus America
Desislava Poptomova, Barco NV	James Vetro, GE Healthcare	Tony Senese, Panasonic Industrial Devices Sales Company of America (PIDSA)
Brenda Baney, E-Cad Consulting Inc.	Donavan Hornsby, Gensuite LLC	N. Nagaraj, Papros Inc.
Peter Gonzalez, Beckman Coulter Inc.	Randall Flinders, GreenSoft Technology Inc.	Jasper Klewer, Philips Group Procurement
Aimee Siegler, Benchmark Electronics Inc.	Betty Salek, H2scan Inc.	Daniel Carey, Premier Farnell Corp.
Brenda Fukai-Allison, Boeing Company	Colleen Sutton, Health Canada	Tomasz Raganowicz, RAGANET
Aidan Turnbull, BOMcheck	Marcus Schneider, Hewlett-Packard GmbH	Timothy Sheehan, Raytheon Company
Mateusz Wojcik, BOMcheck	Curtis Grosskopf, IBM Corporation	
Laura Stevens, Briggs & Stratton	Youjiang Chen, Intel Corporation	

Jim Kandler, RoHS Ready LLC
Dave Billings, Rolls-Royce PLC
Tom Scholte, Royal Philips
Hans van der Wel, Royal Philips
Michael Wurzman, RSJ Technical Consulting
Stephan Herget, SAP America
Kristian Mitic, SAP America
Richard Berman, Seagate Technology
Kevin Gan, Shenzhen Endida Technology Co. Ltd.
Scott Luttggen, Siemens
Tedio West, Siemens
Johannes Auer, Siemens AG
Claudio Meyer, Siemens Schweiz AG

Guido Pompe, Siemens Schweiz AG
Wesam Elsaid, SiliconExpert Technologies
Gregor Margetson, Sky Ltd
Matt Thorn, Source 44 LLC
Howard Stimpson, Sphera
Roger Franz, TE Connectivity
John Montgomery, TE Connectivity
Brenda Niessen, TE Connectivity
Mark Frimann, Texas Instruments Inc.
Reggie John, Texas Instruments Inc.
Thanh Huynh, Thanh Huynh
Tord Dennis, The Compliance Map

Mike Bell, The Toro Company
Lucas Dann, Thinkstep
Daniel Schott, Thinkstep
Harry Wild, Thinkstep Compliance
Nikki Johnson, Total Parts Plus Inc.
Cora Knutson, UL
Peter Brown, W. L. Gore & Associates Inc.
Stephan Lamperski, WAGO Kontakttechnik GmbH & Co. KG
Sandra Meijer, Yordas Group
Connie Zhong, Zhejiang Yudi Electrical Co. LTD
James White

Table of Contents

1	SCOPE	1	4.2.11	Instance ID Authority	6
1.1	Purpose	1	4.2.12	Product Amount	6
1.2	Classes	1	4.2.13	Unit of Measure (UoM)	6
2	APPLICABLE DOCUMENTS	1	4.2.14	Unit Type	6
2.1	IPC	1	4.2.15	Article Flag for Products	5
2.2	European Union (EU) Restrictions on Hazardous Substances (RoHS) Directive	2	4.2.16	Article Category List	5
2.3	International Electrotechnical Commission (IEC) Standards	2	4.2.17	Safe Use List	6
3	REQUIREMENTS	2	4.2.18	Subproduct	7
3.1	Terms and Definitions	2	4.2.19	Number of Instances	7
3.1.1	Article	2	4.3	Supplier Information	7
3.1.2	Complex Object	2	4.3.1	Company Information	7
3.1.3	Due Diligence	2	4.3.2	Response Status	7
3.1.4	Homogeneous Material	2	4.3.3	Contact Information	7
3.1.5	Intentionally Added	2	4.3.4	Other Descriptions	7
3.1.6	Material	2	4.4	Declaration Specifics	8
3.1.7	Mixture	2	4.4.1	Legal Statement	8
3.1.8	Product	2	4.5	Confidentiality Statement	8
3.1.9	Product Group	3	4.6	Attachments	8
3.1.10	Requester	3	5	DATA MODEL	10
3.1.11	Subproduct	3	6	MULTIPLE PRODUCT SUPPORT	11
3.1.12	Substances	3	7	DESCRIPTION OF THE DATA FIELDS	13
3.1.13	Supplier	3	7.1	Declaration Query/Reply (Class A)	13
3.1.14	Threshold Level	3	7.1.1	EU RoHS	13
4	DATA MODEL REQUIREMENTS FOR GENERIC DECLARATION	3	7.1.2	REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals)	14
4.1	Requester Information	3	7.1.3	The IEC 62474 Declarable Substance List	14
4.1.1	Company Information	3	7.1.4	Custom Query	14
4.1.2	Request Information	3	7.2	Material Category Declaration (Class B)	14
4.1.3	Contact Information	4	7.2.1	Material Category List	14
4.1.4	Other Descriptions	4	7.3	Substance Category Compliance Declaration – Product Level (Class C)	15
4.2	Product Information	4	7.3.1	Reporting Compliance at the Homogenous Material Level, Example is EU RoHS	16
4.2.1	Requester Product Number	5	7.3.2	Reporting Compliance When Reportable Application Applies, Example is EU REACH Substance Restrictions	16
4.2.2	Other Requester Product Number	5	7.3.3	Reporting Compliance for the ECHA SCIP Database	17
4.2.3	Requester Product Name	5	7.4	Material Composition Declaration – Homogeneous Material Level (Class D)	18
4.2.4	Manufacturer's Product Number	5	7.4.1	Homogenous Material List	19
4.2.5	Other Manufacturer Product Number	5	7.4.2	Material Category List	19
4.2.6	Manufacturer's Product Name	5			
4.2.7	Manufacturer's Product Version	5			
4.2.8	Manufacturing Site	5			
4.2.9	Effective Date	5			
4.2.10	Instance ID	5			

7.4.3 Additional Material Category List 19

7.4.4 Substance 19

7.4.5 Subproducts 22

7.4.6 Complex Objects 22

7.5 Other Documentation and Attachments 24

8 IMPLEMENTATION GUIDELINES 26

8.1 1751A Rules to Extend Schema Constraints 26

8.2 1752B Rules to Extend Schema Constraints 26

Appendix A Field Mapping and Descriptions 27

Implementation List B RoHS Substances and Exemptions List 33

Implementation List C REACH Candidate List Substances 53

Implementation List D REACH Substance Restrictions 65

Implementation List E IEC 62474 – Material Declaration for Products of and for the Electro-technical Industry 67

Implementation List F Verification Guidance 74

Appendix G Previous Versions of IPC-175X 75

Appendix H Acronyms and Abbreviations 76

Figures

Figure 4-1 Example of Generic Declaration 9

Figure 5-1 Design Data Model for IPC-1752B Material Declaration Requirements 10

Figure 7-1 Example Query Statements in Class A XML 15

Figure 7-2 Example EU RoHS Declaration in Class C XML 16

Figure 7-3 Example EU REACH Substance Restrictions Declaration in Class C XML 17

Figure 7-4 Class C XML Reporting an Article (Component) That Contains REACH Candidate List Substances Above 0.1% 18

Figure 7-5 Historical Obsolete ZVEI IC Standard Semi-Components Which Was Used In The Automotive IMDS System. This Historic Specification Includes 100% Of Substances In Each Homogenous Material And 100% Of Homogenous Materials In The IC And Reports Against The VDA231-106 List Of Material Classifications 20

Figure 7-6a Class D XML Reporting Historical ZVEI IC Umbrella Specification To Illustrate How IPC-1752B Class D May Be Used To Meet New Reporting Requirement For Automotive IMDS System. This Class D XML Has Isfsd="True" To Confirm That 100% Of Substances Are Declared In Each Homogenousmaterial And 100% Of Homogenousmaterials Are Declared In The Product And Reports Materialcategories Against The VDA231-106 List Of Material Classifications 21

Figure 7-6b Class D XML Reporting Historical ZVEI IC Umbrella Specification To Illustrate How IPC-1752B Class D May Be Used To Meet New Reporting Requirement For Automotive IMDS System. This Class D XML Has Isfsd="True" To Confirm That 100% Of Substances Are Declared In Each Homogenousmaterial And 100% Of Homogenousmaterials Are Declared In The Product And Reports Materialcategories Against The VDA231-106 List Of Material Classifications 22

Figure 7-7 ECHA SCIP Database Article Entity Is A Recursive Block 22

Figure 7-8 Example Class D XML For A Thermostat Product Which Contains An O-Ring Subproduct Which Has Isfsd=True And Contains A REACH Candidate List Substance 23

Figure 7-9 Using Subproduct Functionality In Conjunction With The Include Functionality To Report A Complex Object (Thermostat) Which Contains One Article (O-Ring) Which Contains A REACH Candidate List Substance Above 0.1%. The Article (O-Ring) Has A Compliance Declaration Which Is Reported As A Class C Include Statement 24

Figure 7-10 Using Subproduct Functionality In Conjunction With The Include Functionality To Report A Complex Object (Engine) Which Contains Three Articles (O-Rings) Which Contain A REACH Candidate List Substance Above 0.1%, And A Complex Object (Thermostat) Which Contains One Article (O-Ring) Which Contains A REACH Candidate List Substance Above 0.1%. The Article (O-Ring) Has A Compliance Declaration Which Is Reported As A Class C Include Statement 25

Tables

Table 1-1 Material Declaration Classification 1

Table A-1 Field Attributes of Requester Information 27

Table A-2 Field Attributes of Responder Information 28

Table A-3 Supplier Acceptance and Attachment Information 28

Table A-4 Product/Subproduct Information 29

Table A-5 Field Attributes of Class A Query List 30

Table A-6 Field Attributes for Material Category (Class B) 30

Table A-7 Field Attributes of Class C Material Declaration 31

Table A-8 Field Attributes of Class D Declaration 32

Table B-1 EUROHS-0508 Substances 34

Table B-2 EUROHS-0508 Class A QueryList Statements 34

Table B-3 EUROHS-0508 Reportable Applications 34

Table B-4 RoHS Exemptions Listed in Commission Decision 2010/571/EU Published 24 September 2010 (Also Contained in Annex III of the RoHS Directive 2011/65/EU Published 1 July 2011) and in Subsequent Commission Decisions and Commission Delegated Directives 35

Table B-5	RoHS Exemptions that were Valid Before 24 September 2010	44	Table B-14	EUROHS-1907 Reportable Applications	52
Table B-6	RoHS Exemptions Published in Annex IV of the New RoHS Directive 2011/65/EU Which are Specific to Medical Devices and Monitoring and Control Instruments	45	Table C-1	REACH Candidate List Substances with CAS Numbers as Provided by ECHA	53
Table B-7	RoHS Exemptions List Which was Referenced in the IPC-1752 v1.1 PDF Form	47	Table C-2	Non-Exhaustive List of CAS Numbers for REACH Candidate List Substances	63
Table B-8	ELV Exemptions Listed in Commission Directive 2016/774 Published 18 May 2016	49	Table C-3	EUREACH Class A QueryList Statements	64
Table B-9	New Substances Added to Annex II of the RoHS Directive by Commission Delegated Directive 2015/863 Published 4 June 2015	51	Table C-4	EUREACH Reportable Applications	64
Table B-10	EUROHS-1506 Class A QueryList Statements	51	Table D-1	REACH Article 67 Substance Restrictions Listed in Annex XVII, as Amended by Commission Regulation 207/2011 of March 2011 and Commission Regulation 1272/2013 of 6 December 2013 and Commission Regulation 2017/1000 of 14 June 2017	65
Table B-11	EUROHS-1506 Reportable Applications	51	Table D-2	EUREACH-ARTICLE67-1272/2013 Class A QueryList Statements	66
Table B12	Consolidated List of Substances in Annex II of the RoHS Directive as Provided in Commission Delegated Directive 2015/863 Published 4 June 2015	52	Table D-3	EUREACH-ARTICLE67-1272/2013 Reportable Applications	66
Table B-13	EUROHS-1907 Class A QueryList Statements	52	Table E1	IEC 62474 Material Declaration List Version D18.0	67
			Table E-2	IEC 62474 Class A QueryList Statements	73

This Page Intentionally Left Blank

Currently in preview, click buy full version

Materials Declaration Management Standard

1 SCOPE

This standard establishes the requirements for exchanging material and substance data between suppliers and their customers for electrical and electronic products and other products. This standard applies to products, components, subproducts, complex objects, articles, materials, mixtures and substances that are supplied to producers for incorporation into their products. It covers materials, mixtures and substances that may be present in the supplied product, subproduct, complex object or article. It does not apply to process chemicals, unless those process chemicals constitute part of the finished product, subproduct, complex object or article.

1.1 Purpose This standard is intended to benefit suppliers and their customers by providing consistency and efficiency to the material declaration process. It establishes standard electronic data exchange formats that will facilitate and improve data transfer along the entire global supply chain.

This standard includes new functionality which enables reporting different products with different declaration classes in the same XML file. The standard also enables the supplier to use subproducts in a Class D XML to report articles in the complex object provided that the XML file includes declarations for the subproducts. The sub-products can be declared using different declaration classes.

1.2 Classes This standard establishes four classes for declaration of materials. Classes may be combined as desired.

Table_1-1 Material Declaration Classification

Class	Description	Declaration Type	Detailed Requirements
A	Reporting in Query/Reply format	Query/Reply	Supplier provides responses to standard queries and/or <i>optional</i> custom queries as shown in Section 7-1.
B	Material Category reporting	Material Category	Supplier states the amount of different categories of materials within a product.
C	Substance category reporting at the product level	Substance category compliance declaration	Supplier provides mass and/or concentration of substance category at the product level if above thresholds.
D	Substance reporting at the homogeneous material level. Reporting of subproducts in a product	Substance composition disclosure. Subproducts within a product	Supplier provides location, mass, substances at homogeneous material level. Supplier can use subproduct to report articles in the complex object provided that the XML file includes declarations for the subproducts

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 of solicitation **shall** take precedence.

The requirements of the generic standard, IPC-1751, are a **mandatory** part of this standard.

2.1 IPC¹

IPC-T-50 Terms and Definitions for Interconnecting and Packaging Electronic Circuits

Version 3.0:

IPC-1751A Generic Requirements for Declaration Process Management

IPC-1752B Materials Declaration Management

1. www.ipc.org