



Materials Declaration for Eco-Compliance

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IPC – The Association Connecting
Electronics Industries



ASSOCIATION CONNECTING
ELECTRONICS INDUSTRIES



Today's Questions

- **Who** is IPC?
- **What** is Materials Declaration?
- **Why** Materials Declaration?
- **Why** Materials Declaration Standards?
- **Why** IPC 1752 Materials Declaration Standard?



About IPC

- International trade association founded in 1957
- Based in Chicago with offices in:
 - Washington, D.C.; New Mexico; California;
 - Shanghai and Shenzhen, China; and
 - Stockholm, Sweden



About IPC

- 2,300 member companies worldwide
 - PCB manufacturers and their suppliers
 - EMS Companies and their suppliers
 - Original Equipment Manufacturers
 - Government Agencies



About IPC

- International standards setting organization
- Training, certification and professional development
- Government relations
- Trade shows
- Market research

What is Materials Declaration?

- End product producers are requiring that suppliers provide materials declarations
 - Indicate compliance with the requirements
 - Provide detailed materials content information



Why Materials Declaration ?

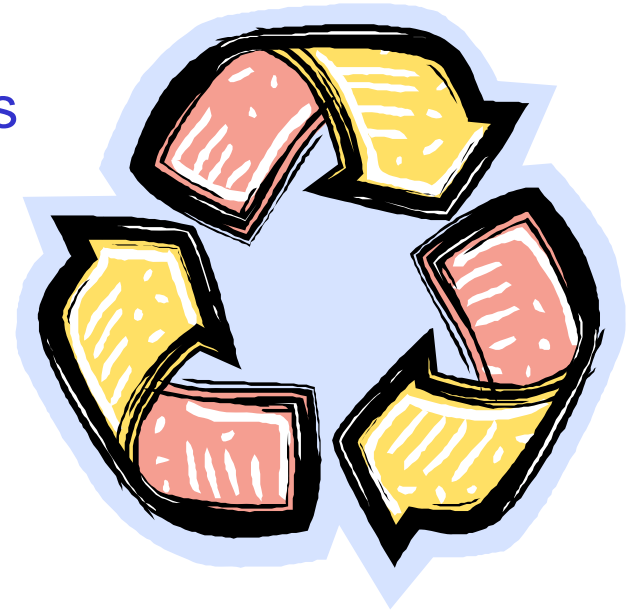


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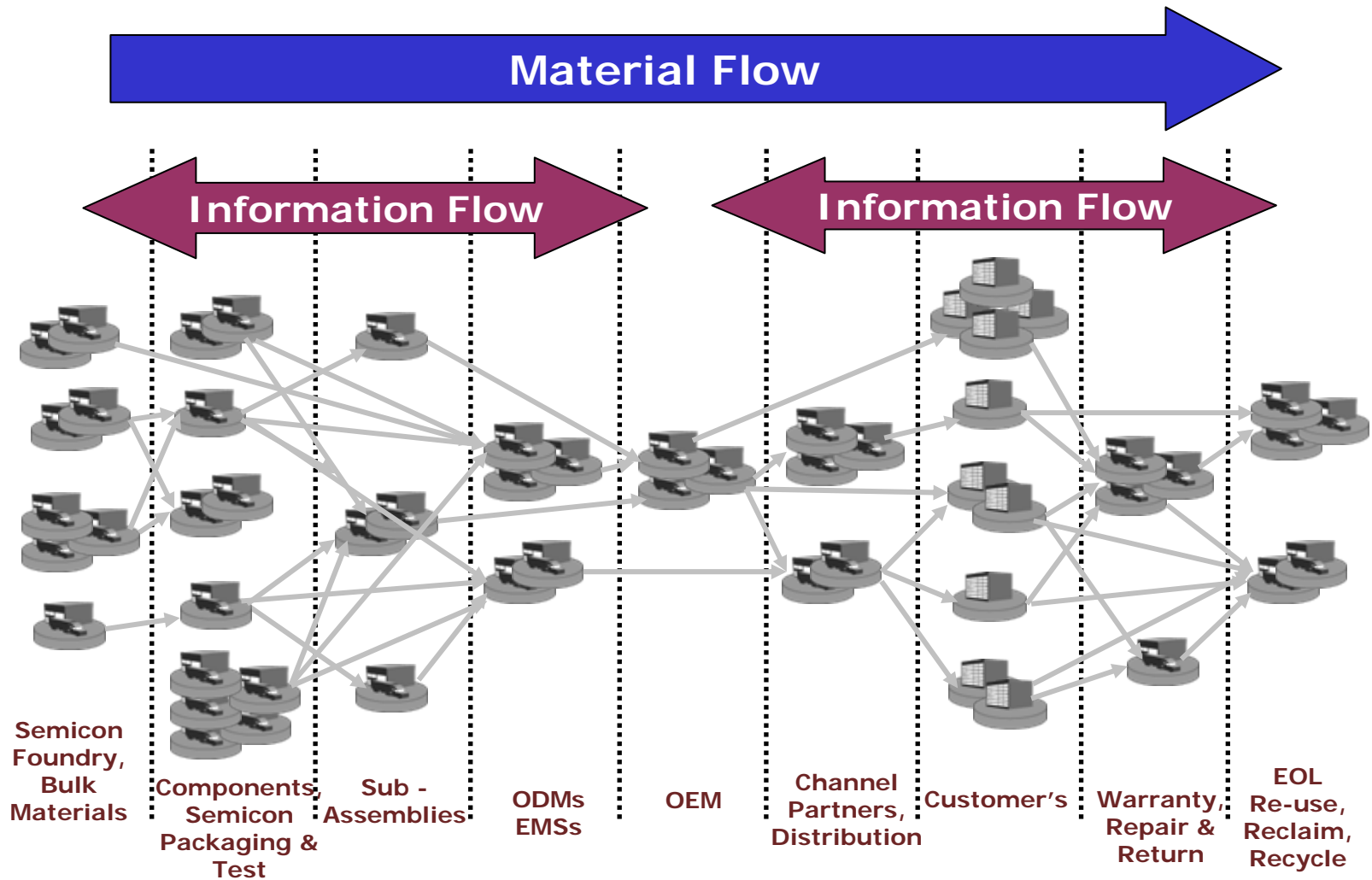


Why Material Declarations?

- EU RoHS and Waste Electronic and Electrical Equipment (WEEE) Directives
- Customers want to ensure products do not contain banned/restricted materials.
- Customers want to know about the presence of other materials for:
 - Recyclability
 - Sustainability targets/goals
 - Green marketing
 - WEEE



Eco-Compliance and the Supply/Demand Chain



Compliance requires collection of information across the supply chain.



Why Materials Declaration Standards ?



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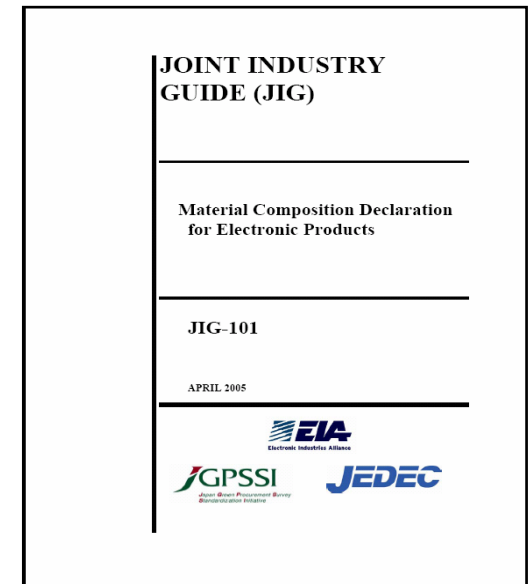


Why Materials Declaration Standards

- Materials declarations formats and custom software are proliferating
- Multiple formats increase the burden on the supply chain
- Standards are needed to reduce the cost and complexity

Joint Industry Guide

- 2001 Companies realized need to harmonize material declaration requirements.
- Developed by Electronics Industries Alliance, The European Information and Telecommunication Industry Association, Japanese Green Procurement Survey Standardization Initiative
- Published April 2005
- Free download at www.eia.org





Joint Industry Guide Content

- Guide to what needs to be declared
 - Level A
 - 9 substances (lead, cadmium, asbestos...)
 - Banned or restricted by law
 - Reporting threshold (concentration) defined by law
 - Level B
 - 16 substances (TBBPA, Nickel, Arsenic...)
 - Environmental/Health and safety concern
 - Sustainability/recycling
 - Hazardous waste regulations
 - Reporting threshold is 1000 ppm

Why an IPC Materials Declaration Standard

- Many different data management solutions are used across the supply chain
- These data management solutions must work together
- Establish standard electronic data formats
- Support the exchange of Materials Declaration information between trading partners (B2B)
- Reduce burden on the supply chain



IPC-1752

- Provides standard on “How” to declare
- References RoHS and JIG for substance reporting requirements
- Free download
www.ipc.org/IPC-175X



Companies Supporting Development of 1752

3M

Agere Systems

Celestica

Cisco Systems Inc.

Dell Inc.

Freescale

Semiconductor

Hewlett Packard (HP)

IBM Corporation

Jabil Circuit, Inc.

Kemet Electronics

Lenovo International

Lockheed Martin

Lucent

Maxtor

Microsoft

Motorola Inc.

Nortel Networks

Qualcomm, Inc.

Solectron

Sun Microsystems

Texas Instruments

Tyco Electronics



Support for IPC 1752

- 3,280 downloads in 2005
- Downloads from 50 Countries



Downloads from 50 countries

Australia

Austria

Belgium

Brazil

CANADA

Colombia

Czech Republic

Denmark

England

Estonia

Ethiopia

Finland

France

Germany

Greece

Hong Kong

Hungary

India

Indonesia

Ireland

Israel

Italy

Japan

Malaysia

Malta

Mexico

New Zealand

Norway

Pakistan

Philippines



Downloads from 50 countries

Poland

Portugal

PR of China

Republic of

Belarus

Republic of

Singapore

Romania

Scotland

Slovenia

South Africa

South Korea

Spain

Sri Lanka

Sweden

Switzerland

Taiwan, ROC

Thailand

The

Netherlands

Turkey

United

Kingdom

United States

of America



International Materials Declaration Standard

- Draft standard forwarded to IEC for International Standardization
- Intended translation to Chinese and Japanese
- Meetings with Japanese, Taiwanese, and German industry groups to facilitate international adoption

IPC 1752 Includes

- Information about person requesting information
- Supplier information
- Part information
- Simple Yes/No RoHS Information
- JIG level declaration
- 100% declaration at homogeneous level
- Basic manufacturing information
- Legal statement
- Signature

IPC-1752

- Defined using a data model
- Underlying XML schema
 - XML import/export to integrate with data management systems
 - Consistent with the data models for Rosetta Net PIPs 2A10/ 2A13/ 2A15
- Provides an Adobe pdf-based form version for human input
 - Support for automated data extraction and exchange through XML



IPC-1752

- Adobe pdf-based form
 - IPC agreement with Adobe
 - Users can edit the PDF form using the free Acrobat Reader
 - Automated data extraction
- 2 versions:
 - IPC-1752-1: RoHS and part level JIG substance reporting
 - IPC-1752-2: RoHS and homogeneous material level substance reporting

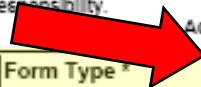




Material Composition Declaration

© Copyright 2005, IPC, Bannockburn, Illinois. All rights reserved under both International and Pan-American copyright conventions.

This document is a declaration of the substances within the manufacturer listed item. Note: If the item is an assembly with lower level parts, the declaration encompasses all lower level materials for which the manufacturer has engineering responsibility.



Adobe Reader version 7.0 or greater is required to complete this declaration.

IPC-1752-2 v10

IPC Web Site for Information on IPC-1752 Standard
<http://www.ipc.org/IPC-175x>

Form Type *

Declaration Class *

Requester Information

Company Name *	Company Unique ID	Unique ID Authority	Request Date*	Request Document ID	Respond By Date
Contact Name *	Contact Title	Contact Phone *	Contact Email *	Requester Comments or URL for additional information	
My supplier ID	The File Type and Destination fields control how the form is submitted by the supplier. Consult your IT staff for configuration.		File Type	Destination - URL or Email address	
Item Number *	Item Name	Mfr Item Number *	Mfr Item Name	Mfr Item Version	Manufacturing Site

Supplier Information

Company Name *	Company Unique ID	Unique ID Authority	Response Date *	Response Document ID				
Contact Name *	Title - Contact	Phone - Contact *	Email - Contact *					
Authorized Representative *	Title - Representative	Phone - Representative *	Email - Representative *	Supplier Comments or URL for Additional Information				
Requester Item Number	Mfr Item Number	Mfr Item Name	Effective Date	Version	Manufacturing Site	Weight	UOM	Unit Type
Alternate Recommendation				Alternate Item Comments				

Manufacturing Process Information

Terminal Plating/Grid Array Material	Terminal Base Alloy	J-STD-020 MSL Rating	Peak Process Body Temperature C	Max Time at Peak Temperature seconds	Number of Reflow Cycles
Comments					

Save the fields in this form to a file	Import fields from a file into this form	Clear all of the fields on this form	Lock the fields on this form to prevent changes
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RoHS Material Composition Declaration	Declaration Type
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RoHS Definition: Quantity limit of 0.1% by mass (1000 PPM) in homogeneous material for: Lead (Pb), Mercury, Hexavalent Chromium, Polybrominated Biphenyls (PBB), Polybrominated Diphenyl Ethers (PBDE) and quantity limit of 0.01% by mass (100 PPM) of homogeneous material for Cadmium

RoHS Declaration *		Supplier Acceptance	
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Exemptions: If the declared item does not contain RoHS restricted substances per the definition above except for defined RoHS exemptions, then select the corresponding response in the RoHS Declaration above and checkboxes will appear below. Check all applicable exemptions.

- | | |
|--|---|
| <p>1. Mercury in compact fluorescent lamps not exceeding 5 mg per lamp.</p> <p>2a. Mercury in straight fluorescent lamps for general purposes not exceeding 10 mg in halophosphate lamps</p> <p>2b. Mercury in straight fluorescent lamps for general purposes not exceeding 5 mg in triphosphate lamps with a normal lifetime</p> <p>2c. Mercury in straight fluorescent lamps for general purposes not exceeding 8 mg in triphosphate lamps with long lifetime</p> <p>3. Mercury in straight fluorescent lamps for special purposes.</p> <p>4. Mercury in other lamps not specifically mentioned in this list.</p> <p>5. Lead in glass of cathode ray tubes, electronic components and fluorescent tubes.</p> <p>6a. Lead as an alloying element in steel containing up to 0.35% lead by weight.</p> <p>6b. Lead as an alloying element in aluminum containing up to 0.4% lead by weight.</p> <p>6c. Lead as an alloying element in copper containing up to 4% lead by weight.</p> <p>7a. Lead in high melting temperature type solders (i.e. lead based solder alloys containing 85% by weight or more lead).</p> <p>7b. Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission as well as network management for telecommunications.</p> | <p>7c. Lead in electronic ceramic parts (e.g. piezoelectronic devices).</p> <p>8. Cadmium and its compounds in electrical contacts and cadmium plating except for applications banned under Directive 91/338/EEC amending Directive 76/769/EEC relating to restrictions on the marketing and use of certain dangerous substances and preparations piezoelectronic devices).</p> <p>9. Hexavalent chromium as an anti-corrosion of the carbon steel cooling system in absorption refrigerators</p> <p>10a. Deca BDE in polymeric applications</p> <p>10b. Lead in lead-bronze bearing shells</p> <p>11. Lead used in compliant pin connector systems.</p> <p>12. Lead as a coating material for a thermal conduction module c-ring.</p> <p>13a. Lead in optical and filter glass.</p> <p>13b. Cadmium in optical and filter glass.</p> <p>14. Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight .</p> <p>15. Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages.</p> |
|--|---|

Declaration Signature

Instructions: Complete all of the required fields on all pages of this form. Select the "Accepted" on the Supplier Acceptance drop-down. This will display the signature area. Digitally sign the declaration (if required by the Requester) and click on Submit Form to have the form returned to the Requester.

Homogeneous Material Composition Declaration for Electronic Products

Subpart Instructions: The presence of any JIG Level A or B substances must be declared. [1] indicate the subpart in which the substance is located, [2] provide a description of the homogeneous material [3], enter the weight of the homogeneous material.

Substance Instructions: [A] select the Level (JIG A, JIG B, Requester or Supplier) [B] select the substance category (JIG or Requester) or enter a value (Supplier). [C] select the substance (JIG) or enter the substance and CAS (Other). [D] select a RoHS exemption, if applicable [E] enter the weight of the substance or the PPM concentration [F] Optionally enter the positive (+) and negative (-) tolerance in percent (Note: percent tolerance values are expected to cover a 3 sigma range of distribution unless otherwise noted).

Line Functions: +P Inserts a New Part +M Inserts a new Material +C Inserts a new Substance Category +S Inserts a new Substance - Deletes the element line


	Part/Subpart Name	Homogeneous Material	Weight	Unit of Measure	Level	Substance Category	Substance	CAS	Exempt	Weight	Unit of Measure	Tolerance		PPM	
												-	+		

Homogeneous Material Composition Declaration for Electronic Products

Requester Instructions: The requester can optionally include additional substance categories and substances that must be declared for the item on this form. This is in addition to JIG Level A and JIG Level B substances already included for the JIG section. The requester should enter additional substance categories and then enter name of the substance and the CAS number. These entries will be accessible to the supplier via Level drop-down by selecting "Requester". Use the Load "Requester" and Test button to view the entries, just select "Requester" in the Level drop-down list in the previous section.

	Substance Category	Substance	CAS

Schedule of Activities



Obtain agreement from key constituents (IPC, EIA /JEDEC (JIG), NEMI, RosettaNet).....	Complete
Develop draft data model and pdf form.....	Complete
Incorporate NEMI pilots feedback	Complete
Two day meeting to prepare draft standard.....	Complete
Circulate Final Draft Standard (60 days).....	Complete
Circulate as Proposed Standard for Ballot (30 days).....	Complete
Resolve comments on Final Draft Standard.....	Complete
2 nd Circulation.....	Complete
Release Final Standard	Feb '06
Publish Official Standard	Mar '06

**IPC Printed Circuits Expo, APEX and
Designer Summit)**

February 10, Anaheim, CA

**IPC/Soldertec Global 4th
International Electronics
Conference and Exhibition "*RoHS
Compliance and Beyond*"**

April 25 - 27 Malmo, Sweden

