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• Status: EIA/EICTA/JGPSSI

# Material Composition Declaration Guide

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# Presentation Overview

- Material Composition Declarations
- EIA Material Declaration Guide
- Efforts to Develop Global Standard
- Status of Global Standard
- Next Steps
- Questions/Answers

# Material Composition Declarations

- Supply chain tool that purchasers use to obtain material composition data from suppliers regarding the products and subparts they purchase
- Why is this data important?
  - As the manufacture of products/subparts are outsourced, purchasers need some way to ensure that the products/subparts do not contain banned/restricted substances that could prevent global sale.
  - Increasingly, purchasers also want to know about the presence of certain other materials for corporate reasons (e.g., “Sustainability”).

# Material Declaration Requests

- Typically take the form of a questionnaire that requests suppliers to certify that a list of banned or restricted substances are not present in product/subpart
- May also include a separate list of materials and substances that are allowed but must be identified when present

# EIA Material Declaration Guide

- EIA released a Materials Declaration Guide in March 2001
- Contains 3 material lists:
  - “Banned” materials
  - “Restricted” materials
  - “Materials of interest”
- Process chemicals not covered
- Background levels not covered
- Materials used in rare/uncommon applications not covered

# Efforts to Develop Global Standard

- Since finalization of EIA Guide, members of the European and Japanese electronic trade associations began development of their own guides
- Possible result: different material lists, different thresholds, different formats
- EIA, EICTA, JGPSSI began initial discussions toward a global standard

# Global Efforts

- In 2002, EICTA hosted first joint meeting in Oslo, Norway - began discussions toward a unified format
- August 2002 - EIA hosted second meeting in Washington, DC - general consensus reached on materials list
- January 2003 - JGPSSI hosted third meeting in Tokyo - discussions focused on list and thresholds
- September 2004 – EICTA hosted final meeting in Stockholm to determine format and standardization

# Where are We Today?

- Draft Guide Finalized and available on EIA website
- <http://www.eia.org/resources/2003-09-19.10.pdf>
  - Agreement on Material Lists
    - Level A (banned or restricted)
    - Level B (“sustainability”)
  - Agreement on Thresholds
    - Level A (“look to the law”)
    - Level B (1000 ppm is default)
  - Agreement on Data Format
  - Agreement on Standardization (EIA/JEDEC)



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# Level A Materials

Comprises those materials and/or substances that are knowingly present or intentionally added within the materials that comprise the product and which are subject to current or enacted legislation that either,

- a) Prohibits the use and/or marketing
- b) Restricts the use and/or marketing
- c) Requires reporting or other regulatory effects

# Level A List

Material/Substance	Threshold level
Asbestos	Intentionally added
Azo colorants <sup>1)</sup>	Intentionally added
Cadmium /Cadmium Compounds	75 ppm or Intentionally added
Hexavalent Chromium/Hexavalent Chromium Compounds	1000 ppm or Intentionally added
Lead/Lead Compounds	1000 ppm or Intentionally added
Mercury/Mercury Compounds	1000 ppm or Intentionally added
Ozone Depleting Substances (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc.)	Class I: Intentionally added Class II – HCFCs: 1000 ppm
Polybrominated Biphenyls (PBBs)	1000 ppm or Intentionally added
Polybrominated Diphenylethers (PBDEs)	1000 ppm or Intentionally added
Polychlorinated Biphenyls (PCBs)	Intentionally added
Polychlorinated Naphthalenes (more than 3 chlorine atoms)	Intentionally added
Radioactive Substances	Intentionally added
Shortchain Chlorinated Paraffins	Intentionally added
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	Intentionally added
Tributyl Tin Oxide (TBTO)	Intentionally added



# Level B List

<b>Material/Substance</b>	<b>Threshold level</b>
Antimony/Antimony Compounds	1000 ppm
Arsenic/Arsenic Compounds	1000 ppm
Beryllium/Beryllium Compounds	1000 ppm
Bismuth/ Bismuth Compounds	1000 ppm
Brominated Flame Retardants (other than PBBs or PBDEs)	1000 ppm
Copper/Copper Compounds	1000 ppm
Gold/Gold Compounds	1000 ppm
Magnesium	1000 ppm
Nickel/Nickel Compounds <sup>1)</sup>	1000 ppm
Palladium/Palladium Compounds	1000 ppm
Phthalates	1000 ppm
Selenium/Selenium Compounds	1000 ppm
Silver/Silver Compounds	1000 ppm
Vinyl Chloride Polymer (PVC)	1000 ppm



# Data Format

- In Stockholm, the three groups agreed that there are a variety of data formats that companies could use for material composition requests.
- Group agreed on mandatory data fields that must be present in any request.
- Joint Guide contains an example of a simple material declaration request that contains only mandatory fields
- This example represents the minimum information that must be required to conform to the Guide
- Other, more complex tools (e.g., Rosettanet) are also being developed and are encouraged



# Simple Material Declaration Form

## SAMPLE MATERIAL DECLARATION DATA SHEET

Component Name: Integrated Circuit

**MANUFACTURER NAME:** Any Company      **DATE:** 03/09/11

**CONTACT (Name/E-mail):** John.Doe/does@anycompany.com

**PRODUCT/PART NAME & DESCRIPTION:** Integrated Circuit - 100 TQFP Package

**PRODUCT NUMBER:** 001-A

**WEIGHT OF FINISHED PRODUCT:** .717 g

Material/Substances	Description of Use	Location in product	Quantity contained or used in (mg)
Antimony	Flame Retardant	Mold Compound	11.66
Silver	Conductive Material and Connections	Die Attach Epoxy and Spot Plating	56.36
Copper	Lead Frame	Lead Frame Alloy	218.34
Lead	Leads	Solder Plating	1.715
Gold	Connectors	Bond Wire	4.7

**COMMENTS** (Please provide any clarification of responses, if necessary)

*[Comments may include explanation of methodology used to obtain results, links to corporate website for more information, and any other comments to inform customer.]*

# Standardization Efforts

- EIA, EICTA, and JGPSSI agree that it is essential to elevate Guide as international standard
- Agreement – use EIA membership and JEDEC voting procedures
- Reason EIA/JEDEC chosen – broadest membership (EICTA and JGPSSI members included)
- Once standard finalized – may elevate to IEC

# Next Steps

- Joint Guide has been posted on all three organization's websites.
- JGPSSI and EIA have approved the joint guide
  - Some “No” votes within EIA
- EICTA approval still pending – membership split
- Proposal for EIA/JEDEC standardization process to begin ASAP to resolve “No” votes and concerns raised by EICTA membership.
- All EIA/EICTA/JGPSSI members invited to participate in standards process





# Questions?



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