

Material Declaration

“Working with Stakeholders to...

Support Industry Change...

Provide Expandable Solutions (Proactive Approach)...

Do The Right Thing”

Agenda

Expectations

Adaptability

Agility

Alignment

Critical Issues

Expectations

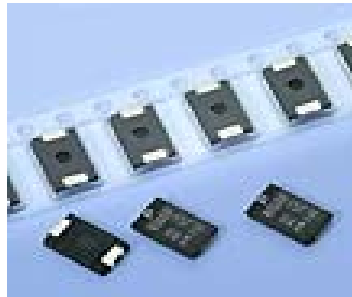
(Reporting Requirement Ambiguity?)

Assembly Level?



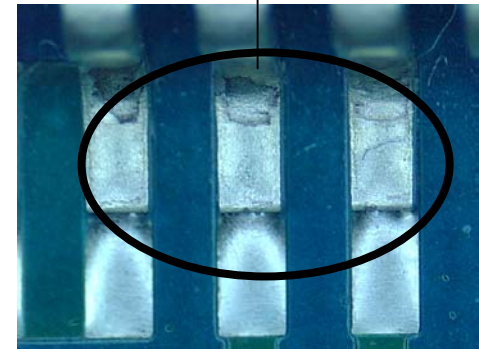
Minimal Impact-Haz Mat
SnPb Mfg Process OK
SnPb Components OK
NOT LIKELY

Component
Level?



Improved Impact-Haz Mat
Pb-Free Mfg Process
SnPb Component OK
NOT LIKELY

Material Level ?
(**Legislation Intention**)



**Greatest Impact-Haz Mat
Pb-Free Mfg Process
Pb-Free Component
LIKELY**

***July 20th TAC (Technical Adaptation Committee) Clarification:**

A semi-conductor package contains many homogeneous materials which include; plastic moulding material, tin-electroplating coatings on the lead frame, the lead frame alloy and gold-bonding wires.

Expectations

(OEM & Supply Chain)

Design Outsourcing

- Proven Design for Environment & Eco Design Compliance
- Demonstrate Environmental Regulation Compliance in Product Design

Material Composition Reporting (Aggregate Data- Finished Good)

- Declare Substance of Concern per Requested Lists & Format (e.g. Eco Declarations)
- Depth of Declaration Requirements Varies (e.g. Scalability)
- Required to Enable Market Share

Technology & Conversion Roadmaps – Eliminate Hazardous Materials

- Conversion Roadmaps (incl. Pb-free process compatibility)
- Economics & Supply Continuity Mapping

Highest Quality Assurance Practices During Transition

- Manufacturers Part Number Change

Expectations

(Bottom Line)

Technology & Environment Collision Course (E-Waste)

Legislation = New Customer Requirement

Challenge Existing Business Processes to Support
“Greener” **Product Development & Disposal**

Cost (\$) (Resources, Materials, Capital)

Market Share Enabler (Component Mfg to Recycler)

Scalable & Expandable (Not the End!)

Adaptability

Challenge Existing Business Processes to Support
“Greener” **Product Development & Disposal**

- DfE (Design for Environment)
- IT (Information Exchange)
- EOL (Design for Recycling, EOL Management)
- LCA (Life Cycle Analysis)
- Scalability & Expandability (Full Disclosure, Pb-Free Process Compatibility, WEEE)
- Integrity of Information (Full Disclosure)

Benchmark & Apply Lessons Learned (Auto Industry)

Agility

Speed of Information Exchange

- Robust IT System of Exchange (e.g. RossettaNet)
- Scalable & Expandable Information Promoting Responsiveness (e.g. full disclosure)
- Integrity of Information (e.g. due diligence)

Alignment

Legislation

- Address Current Requirements (Don't Forget WEEE!)
- Consider Future Requirements (IPP)
- Due Diligence

External (Customer Specific)

- Multiple Substance List Reality
- Exemptions (Where Applicable)

Internal

- ERP & PDM System Interface (Data Aggregation)
- Mfg Process Compatibility (Pb and Pb-Free)

Industry Standardization

- JIG, Rossettnet, IPC
- Auto Industry – Logic & Lessons Learned

Critical Issues

Efficiency thru Scalability & Expandability

- Proactive versus Reactive
- Mfg Process Parameter Alignment (e.g. Pb-Free)
- Reduce Frequency of Request (One-Time Data Collection)

Speed (Clock's Ticking!)

- Lack of Standardization
- Lack of Tools

Acceptance

- Material Composition Declaration Becomes Standard Information (e.g. Component Data Sheet)
- Proactive Induced Challenges (Prior to Standardization)
- B2B Requirements (Multiple Beyond Standardization)