

Material Disclosure of Hazardous Products

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Part 1: The Status Quo is Difficult

EU Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

California Prop 65

Global Reporting Initiative (GRI)

EU End-of-Life Vehicle (ELV)

Restrictions on Hazardous Substances (RoHS) in Electrical and Electronic Products

- European Union – the original
- China RoHS
- Korea RoHS
- Japan RoHS
- Norway RoHS
- Turkey RoHS
- Singapore RoHS
- California

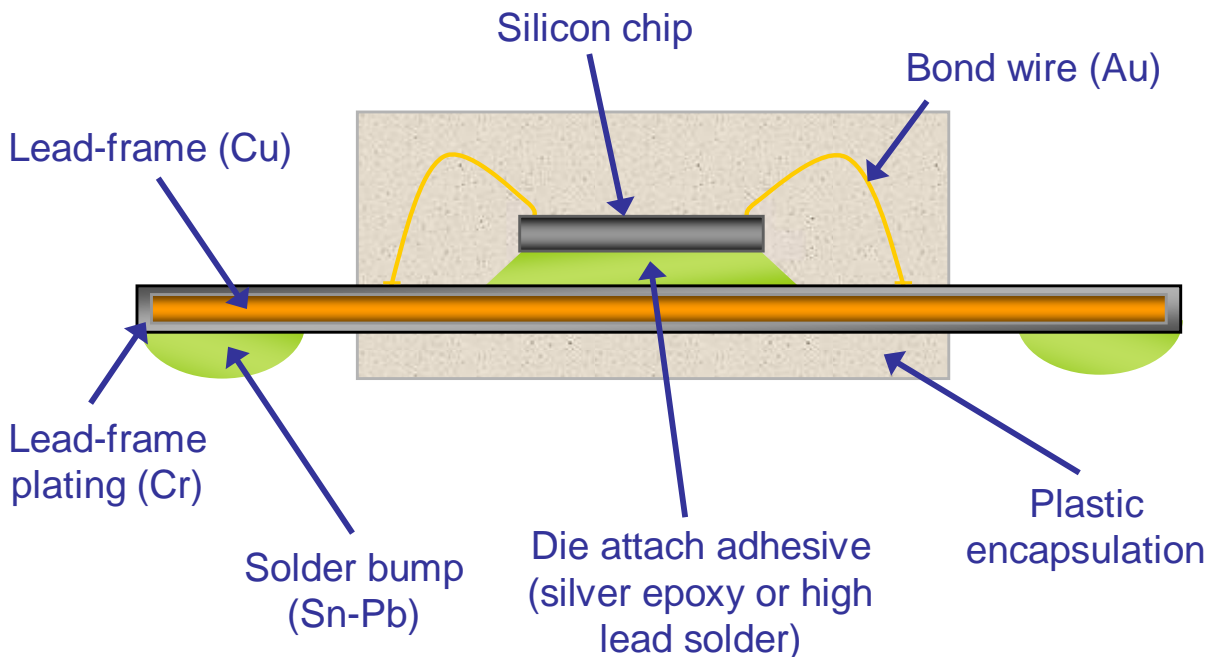
Waste Electrical and Electronic Equipment (WEEE)

- European Union – the original
- China
- India
- Japan
- Canada
- California
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Conflict Minerals (Dodd-Frank)

Material/Substance	Threshold level
Asbestos	Intentionally added
Certain Azo colorants	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
Certain Shortchain Chlorinated Paraffins	Intentionally added
Tributyl Tin (TBT) and Triphenyl Tin (TPT)	Intentionally added
Tributyl Tin Oxide (TBTO)	Intentionally added

Example of Homogenous Materials: Surface-mount IC chip structure



Adapted from Paul Goodman, ERA

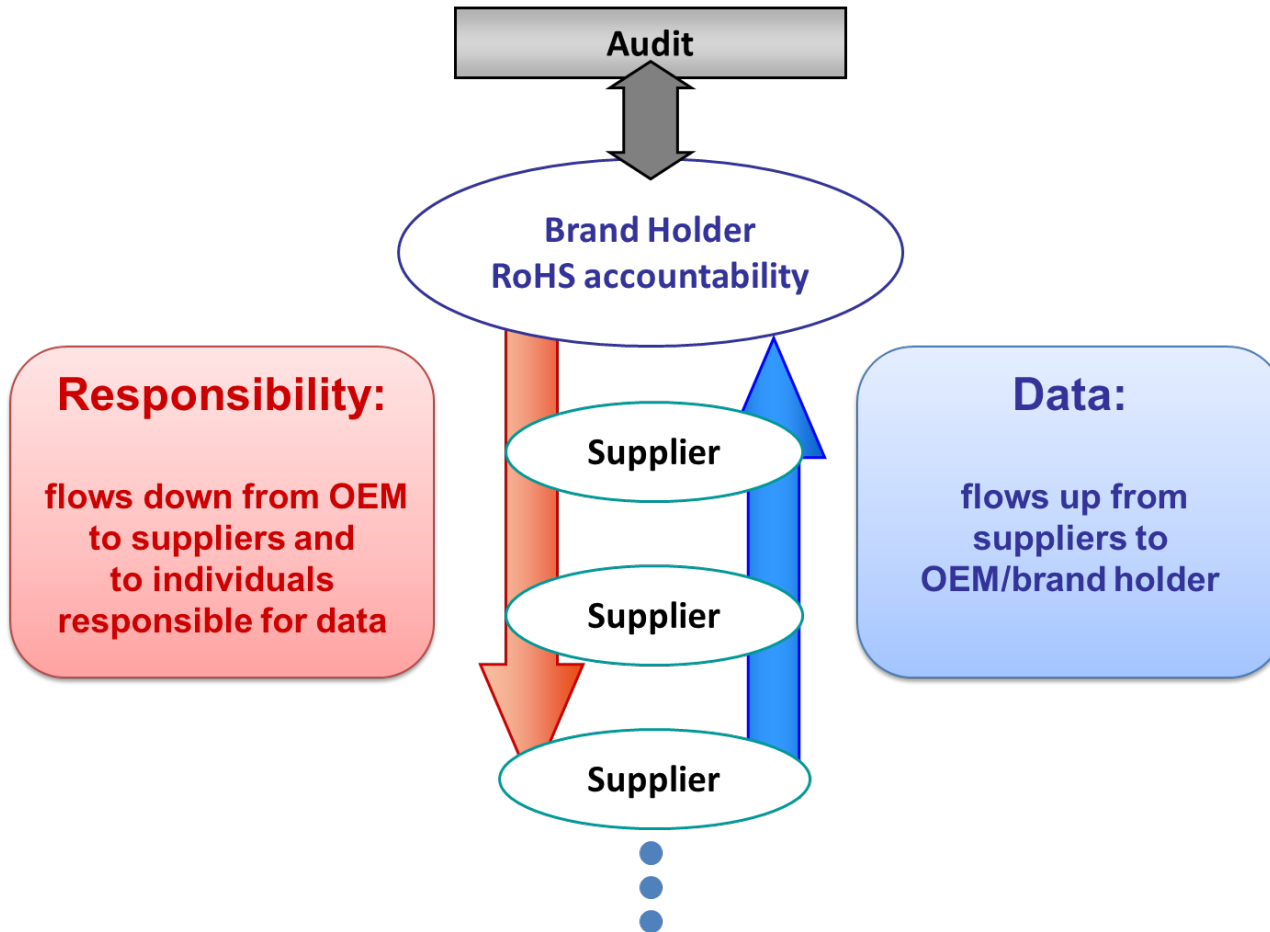
“Motorola Mobility requires suppliers to **report full material data at the homogeneous material level** and eliminate banned substances...

Cascade the requirements in this specification to its sub-tier suppliers

- Sub-tier supplier information is a must for complete material and substance data determination.”



MOTOROLA





Association Connecting Electronics Industries

175x Family of Materials Declaration
Data Exchange Standards

www.ipc.org