

ChemSec  
The International Chemical Secretariat

## **CiP** Electronics

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## Content

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- Background
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## Background CiP

The Strategic Approach to International Chemicals Management (SAICM)

- *achieve the sound management of chemicals throughout their life cycles so that, by 2020, chemicals are used and produced in ways that lead to the minimization of significant adverse effects on human health and the environment*
- Objective 15 (b): *information on chemicals throughout their life cycle, including, where appropriate, chemicals in products, should be available, accessible, user friendly, adequate and appropriate to the needs of all stakeholders*



## Background CiP Electronics

**Focus on Personal Computers and Mobile phones**

- rapid increase in sales - e-waste fastest growing waste stream.
  - short life spans on the market
- forefront of technological development and innovation.
- widely used - industrialized countries and increasing in developing countries.
- recycling issues, informal/formal.



## Definitions

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- Stakeholders
- Information systems
- Proprietary information



## Stakeholders

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- Chemicals producers
- Components manufacturers
- Brand owners
- Consumers (incl NGOs and PIOs)
  
- Recyclers and waste handlers (Formal)
- Recyclers and waste-handlers (Informal)



## Participants

- Cross-section of informed and willing participants – no laggards
- ~30 in-depth interviews throughout value chain
- Goal: new, focused information within time and budget limitations
- Division Manufacture - EoL



## Findings: Information Use

- Generally, same info systems for PC and MT, and for the various components
- Main info exchange often with adjacent actor in the value chain
- Important for companies: Stay ahead of regulations
  - Time to innovate solutions
  - Maintain good product quality
  - Plan inventory, shipments, and sales
  - Point of differentiation



## Findings: Information Systems

- RoHS
- China RoHS
- Reach
- Reach candidate list of SVHC
- EU Battery Directive
- WEEE
- MSDS
- Globally Harmonized System for Classification and Labeling of Chemicals (GHS)
- California's Proposition 65
- Green Purchasing/Procurement Guides
- IPC 1752 standard
- Joint Industry Guide (JIG)
- IndustryRSLs
- Company RSLs
- Eco-Labels
- EPEAT
- SIN List
- US EPA's Design for Environment Program
- EU Rapid Alert System for Dangerous Non-food Consumer Products (RAPEX)

**New:** GPS, Annex 1, Nickel Directive, CPA's Green Screen



## Findings product chain

- Topp-end says they provide all the relevant info
- Many brand-owners feel that chemicals manufacturers do not have info on how the chemicals are used, and that they do not have enough hazard information about the chemicals that go into their products.
- Information is created, and passed on to someone, but does not reach the ones who need it!
- MSDS widely used, but not highly valued by downstream users, data inadequate
- General perception is that recyclers do not ask for chemicals info



## Chemical Producers

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- Create the basic chemicals, blends of chemicals, and materials (e.g., plastics and polymers for product casings, plating chemicals, solvents, paints and coatings, and metal finishes) for MTs and PCs



## Findings: Chemical Producers

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- Risk assess products; sell for intended uses
- “Push” information to customers
- In general more emphasis on function rather than environment
- Various types of “Pull” information freely available to all others (e.g., company websites, GPS)
- Not sure how far “push” info travels in supply chain or who “pulls” info



## Components Manufacturers

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- Large web of components manufacturers
  - make eg molded plastic casings to disc drives and circuit boards
- Often several tiers of suppliers between chemical producers and brand owners



## Findings: Components Manufacturers

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- Fairly neutral, demand-driven by downstream requests.
- Provides what the next actor requires.
- Some strive to be ahead of regulation
- Faced with a myriad of different types of information requests.
- Prefer standardization of requirements.



## Findings: Brand Owners

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- Components assembled into finished products
  - final products sold to other businesses and/or consumers



## Findings: Brand Owners

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- Liable and responsible for their products.
- Reputation, branding.
- Pull info from different sources
- *“Info on uses and exposure not communicated upstream to chemicals manufacturers”.*
- Cant get agreement on what chemicals are the most prioritized. What chemicals to include in RSL.





## Findings: Consumers

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- Need clear and credible info
- At point of sale, otherwise not sought after
- Expect products to be safe!
- Product labels can help
- Businesses & authorities as consumers: procurement criteria. Eg. certification for recyclers helpful.



## Findings: Formal Recycling

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- A chain of different actors with different priorities
- Priority: precious/valuable material
- Limited interest in additional info
- Equate legal with safe
- Legal requirements often limited to general workers protection.



## Informal Recycling

- Refurbishers, Recyclers, Waste-handlers in developing countries.
- Refurbish second-hand electronics, extract precious metals
- International trade
- Crude methods
- Poor, no education, under-aged



## Findings: Informal Recycling

- Information available in the right language?
- Literacy?
- Lack of knowledge / resources for Best Practices.
- EPR does not apply to developing countries?
- Alternative methods or sources of income?
- Appropriate info, eg radio-campaigns, pictures etc.



## Findings: Informal Recycling

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Capacity building?

- Formal industry more costly, and has to compete with parallel continued informal practices!
  - Informal collection has competitive advantages
- Underestimates problems in advanced facilities?
  - problems do not disappear.
- Facilities for components containing hazardous material?



## Findings – General thoughts

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- Suppliers of components
  - sometimes lack information required
  - are rarely formulators,
  - don't have information at levels below regulatory thresholds
- Materials are often qualified by function and performance, not specific chemistry
  - Designers idem



## Findings – General thoughts

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### Proprietary information: reflections

- Many suppliers consider all formulation data proprietary, even standard material formulations
- Some companies formally oppose providing data beyond the bare minimum
- Recipients need to show suppliers that data can be protected
- We need to have open discussions about what really is and is not proprietary



## Discussion and Conclusions

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- Intended use vs Actual/Expected
- Relevant Information vs Available information
  - How to ensure that all relevant information is available at every step of the life-cycle.
- Standardization beyond legal compliance?
  - How to ensure agreement on information on hazardous chemicals?



## Discussion and Conclusions

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- Overarching Systems to make relevant info available.
  - eg Escort information (RFID)? Tracking systems?
- How to engage recyclers?
- How to include Environment and EoL in design stage?
- Open discussion needed about Proprietary Information



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**Thank You.**

