Managing Product Materials Content

Material selection and chemical use in products is a growing concern of Cisco's stakeholders and a critical aspect of the global challenge of electronic waste (e-waste). Certain heavy metals and organic chemicals used in key product components such as circuit boards and cables, although critical to product functionality, can have negative environmental and health impacts when products are not properly disposed of. It is incumbent upon companies to focus on responsible management of hazardous materials, product material selection, and product end-of-life management to minimize the impact of products on the environment.

Cisco recognizes that hazardous substances pose a risk to the environment and our collective health and safety. Through Cisco's Product Materials Management program, we seek to minimize the use of potentially hazardous substances in our products and operations, and ban certain substances as necessary.

Our Approach

Key objectives of Cisco's materials management efforts are:

1. Complying with product-related environmental laws and regulations restricting the use of certain substances worldwide.
2. Proactively minimizing the amount of hazardous substances in our products through materials innovation, while maintaining Cisco's high standards for product quality and reliability.

To achieve these objectives, Cisco's engineering and value chain teams coordinate to infuse sustainable product design through the value chain. Cisco has adopted a Controlled Substances Specification to outline requirements for the materials, parts, and products used in manufacturing Cisco products. For more information, see the CSR and Our Value Chain section. Cisco design and manufacturing engineers are also charged with designing products with end of life in mind, optimizing for products to be remanufactured or recycled to minimize the amount of e-waste generated. To learn more about our product take-back, recycling, and waste management programs, see Reducing Waste in this section.

Global Compliance

Cisco closely monitors standards and regulations relating to product toxicity and adheres to worldwide directives relating to the use of materials and potentially hazardous substances. This includes monitoring our direct activities and the activities in our supply chain.

In FY09, we developed an internal tracking tool to better educate Cisco employees on existing and emerging standards and regulations. All Cisco employees can access the tool and contribute relevant information.

Cisco works closely with our value chain to monitor compliance of products and materials supplied by partners, and we employ a Product Compliance Assurance Process as part of our due diligence for compliance with applicable standards. We have also developed specifications to validate our suppliers' management of restricted substances and their documentation of compliance standards.

Key regulations affecting Cisco operations and supply chain in FY09 include:

- **EU/EEA Restrictions on Hazardous Substances (RoHS) Directive:** Six substances of concern have been restricted from use in Cisco products shipped into the European Market since July 1, 2006. Cisco's Position Statement on the RoHS Directive is published on our website.
- **EU/EEA Registration, Evaluation, Authorization, and Restriction of Chemicals Regulation (REACH):** Cisco has a comprehensive REACH compliance program in place to monitor compliance with all applicable obligations. Although we are not directly impacted by REACH preregistration obligations, Cisco continues to work with our suppliers to comply with all relevant REACH requirements and to minimize disruption to business continuity from changes to product composition. Cisco also works proactively with our supply chain and industry research work groups to determine the presence of Substances of Very High Concern (SVHCs) in products, and to provide recipients of Cisco products with relevant information as mandated by the REACH Regulation. Cisco's REACH Declaration Regarding SVHCs in Cisco products is published on our website. Cisco will continue to update our REACH declaration should any changes occur or new relevant substances be added to the candidate list. In addition, Cisco is working with electronics industry peers on a common regulatory and industry approach to REACH compliance.

Proactive Measures

Cisco proactively works to incorporate materials and components in our value chain that reduce the environmental impact of Cisco products and packaging. These include the following initiatives:

- **Lead-free Solder:** Lead-based solder has historically been a key component of circuit boards and other electronic parts. There is concern that if products containing lead are not properly disposed of, lead can leach into soil, posing risks to human health. While lead solder is currently exempt from the RoHS directive for networking infrastructure equipment, product conversion and testing efforts have allowed Cisco to make significant progress toward removing lead solder from all Cisco products by 2014. For the transition, Cisco has developed a lead-free solder specification for components, interconnects, and printed circuit board reliability; implemented lead-free data management systems, assessed supplier capabilities; tested the reliability of alternative substances; and developed a product conversion roadmap. To protect product quality, we are working with global industry associations to develop highly reliable lead-free solder.
- **BFRs and PVC:** Public concern over the health impacts associated with human exposure to brominated flame retardants (BFRs) and polyvinyl chloride (PVC) has increased in recent years. BFRs and PVC are included in Cisco's controlled substances specification. Cisco is working with industry-standards technical committees to investigate the implications of substituting for BFRs and PVC in our products. In FY09, we began evaluating the impact of eliminating BFRs and PVC on our value chain and product integrity. We have set a target of confirming the viability of substitutes for use in Cisco products by 2011.
- **Batteries:** In FY09, Cisco implemented a Global Battery Specification for Cisco products that is enforced throughout our value chain.

Looking Ahead

As the regulatory environment continues to evolve, Cisco will stay closely connected and will prepare to enact changes throughout the organization and value chain. With transitions to new materials, Cisco is acutely aware that there are often trade-offs, and we will continue to evaluate the consequences of any transition so the ultimate goals of sustainability can be met without compromising other environmental, health, or product quality objectives.