Introduction of KOREA RoHS and Preparation for REACH Implementation

Bongjin Jung
The University of Suwon, Korea

ACTION AND REACTION
Developing a sustainable approach to emerging chemical issues

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Preparation for REACH Implementation

- REACH Help Desk Center by Government Support
  - KNCPC* & MOCIE (Ministry of Commerce, Industry and Energy)
    [www.REACH.or.kr, * KNCPC : Korea National Cleaner Production Center]
  - MOE (Ministry of Environment) : www.reach.me.go.kr

- Main Current Activities in REACH Help Desk Center
  - Supply overall informations by exclusive REACH homepage
    (about REACH, general guidance on registration, scientific and technical advice on chemicals on-line and off-line sites etc.)
  - Questions & Answers including short explanation of REACH for inexerienced users
  --- Periodically regular educations for chemical industry employees by workshops, seminars, and others
  - Distribution of REACH technical guidance for each specific industrial sector
  - Networking with experts, industry organizations and trade associations etc.
  - Promotion of international cooperation
Current Activities - Preparation for REACH Implementation

— Supply the data base of individual chemical substances

— Operation of task force team for each specific industrial sector (i.e.: petroleum, fine chemical, electrical and electronic, automobile, textile, paper, metal industries etc.)

— Collect informations about industrial needs from manufacturers

— Coordination of network to collect material flow information in the supply chain

— Participation of Consortium for registration of individual chemical substances
Future Plans - Preparation for REACH Implementation

- Positive and active reactions about REACH regulation to meet the time schedules for registration in multiple industrial sectors

- Future Plans
  - Strength of manufacturer’s network association
  - Practical training and strategic consulting for downstream users
  - Enlargement of GLP laboratory for testing and analysis
  - Need more close mutual cooperations with international organizations
    
  . active participation in SEG (Stakeholder Export Group)
Background

- Rapid increase of E-wastes generation and necessity for increasing its recycling rate in Korea
  - Recycling rate of E-product is about less than 20% of total generation

- Increase of environmental damage and economic loss by lack of strong recycling policy
  - Current recycling policy: Recycling Promotion Guideline and Extended Producer Responsibility (EPR)

- International environmental regulations in electrical and electronic equipment and vehicles
  - EU: RoHS, WEEE, ELV
  - Japan: J-MOSS
  - China: China RoHS
  - U.S.A.: California RoHS

- Need systematic management for considering recycling rate of E-products and vehicles
Introduction of KOREA RoHS

- Title: Act for Resource Recycling of Electrical/Electronic Equipment and Vehicles
- Enforcement Date: January 1, 2008

Outlines of the Act
- It is an integrated environmental regulation for considering recycling rate of E-products and vehicles.
- It contains how to collect, treat, dispose, and recycle E-wastes for efficient use of resources to preserve the environment friendly.
- It is similar to EU ROHS, WEEE, and ELV Directives.
Summary of KOREA RoHS(I)

Act for Resource Recycling of Electrical and Electronic Equipment and Vehicles

General Provisions
- Purpose
- Definition
- Prevailing Provision over Other Acts
- General Duties of Central, Local Authorities, Industries, and the Public
- Promotion of International Cooperation
- Eco-Assurance Review Committee

Prior Management
- EEE
  - Restriction on the Use of Hazardous Substances and Concentration Limits
  - Technical Guidance on the Improvement of Materials and Structure
  - Provide recycling information
  - etc
- Vehicle
  - Restriction on the Use of Hazardous Substances and Concentration Limits
  - Possibility of Recycling Rate of Vehicles
  - Provide recycling information
  - etc

Posterior Management
- EEE
  - Recycling Requirements
  - Collection of Recycling Charges for EEE
  - Use of Recycling Charges for EEE
  - Fee-Free Collection Requirement by Sellers of EEE
  - Establishment of Recycling Mutual Aid Association
  - etc
- Vehicle
  - Compliance with Recycling Rate of End-of-life Vehicles
  - Recycling Methods of End-of-life Vehicles
  - Establishment of Vehicle Recycling Association
  - Registration of End-of-Life Vehicle Recycling Operation
  - etc

Supplementary Provisions & Penalties
- Record-keeping
- Reporting and Inspection
- Cooperation from Relevant Agency
- Penal Provisions
- Collection of fine Negligence
- etc
Summary of KOREA RoHS(II)

Duty of Prior Management

- Article 9. Restriction on the Use of Hazardous Substances
  - Target Product
  - Concentration limit of contained hazardous substances
  - Exemption cases
  - Analysis method of hazardous substances

- Article 12 clause 1 Provision of Recycling Information
  - Recycling information

Article 10. Improvement of Materials & Structure

- Technical guidance

Article 12 clause 2,3 Submission of Proposal

- Proposal for recycling improvement by recycler

Declaration/Record-Keeping

- Article 11. Declaration
  - Compliance with concentration limit
  - Annual recycling rate of vehicle

- Article 36 Record-keeping
  - Registration of recycling information

Reporting & Inspection

- Article 37 Reporting & Inspection
  - Implementation of order
  - Inspection method

Homepage

Duty of Prior Management
Declaration/Record-Keeping
Reporting & Inspection

Recycler

Information system of operating management

Implementation of order

Inspection method
Management Information System

- Information of compliance about regulation, concentration limits of hazardous substances, improvement of materials and structure, recycling

- Transportation performance

The actual thing flow

The Information flow
Comparison of International Environmental Regulations in Electrical and Electric Equipment

- The key provisions of Korea RoHS are basically similar to European Directive. However, there are many differences in implementation aspects

<table>
<thead>
<tr>
<th>ITEMS</th>
<th>KOREA</th>
<th>EU</th>
<th>JAPAN</th>
<th>CHINA</th>
<th>USA(CA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target Product</td>
<td>Electrical and Electronic Equipment (10 items)</td>
<td>Electrical and Electronic Equipment (8 categories))</td>
<td>Electronic Appliance</td>
<td>Electronic Information Product</td>
<td>Video-display appliance (&gt; 4-inches screen)</td>
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<tr>
<td>Restricted Subs./MCV</td>
<td>Pb(0.1%), Cd(0.01%), Hg(0.1%), Cr6+(0.1%), PBB(0.1%), PBDE(0.1%) to be regulated</td>
<td>Pb(0.1%), Cd(0.01%), Hg(0.1%), Cr6+(0.1%), PBB(0.1%), PBDE(0.1%)</td>
<td>Pb(0.1%), Cd(0.01%), Hg(0.1%), Cr6+(0.1%), PBB(0.1%), PBDE(0.1%)</td>
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<td>Pb(0.1%), Cd(0.01%), Hg(0.1%), Cr6+(0.1%)</td>
</tr>
<tr>
<td>Design for Recyclability</td>
<td>Improve recyclability according to Technical Guidance published by MOE and MOCIE</td>
<td>Not mandatory</td>
<td>Improve recyclability according to &quot;Law for Promotion of Effective Utilization of Resources&quot;</td>
<td>Not mandatory</td>
<td>Not mandatory</td>
</tr>
<tr>
<td>Conformity</td>
<td>Declaration of Conformity</td>
<td>Self-Declaration</td>
<td>Labelling (Orange R/Green G)</td>
<td>Information Disclosure, CCC certification</td>
<td>Reporting to Authorities</td>
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<td>Enforcement Date</td>
<td>Jan 1, 2008</td>
<td>July 1, 2006</td>
<td>July 1, 2006</td>
<td>Mar 1, 2007</td>
<td>Jan 1, 2007</td>
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Target E-Products and its Recycling Rate in Korea RoHS

Target Products

5. PC (include monitor and keyboard)  6. Audio  7. Mobile phone (include battery and charger)  

Recovery Rate

(basis : wt%/each item)

<table>
<thead>
<tr>
<th>Items</th>
<th>Recycling+Energy Recovery</th>
</tr>
</thead>
<tbody>
<tr>
<td>EE Products</td>
<td>85% (before 2010 year) (including 5% energy recovery)</td>
</tr>
<tr>
<td></td>
<td>95% (After 2010 year) (including 10% energy recovery)</td>
</tr>
<tr>
<td>Vehicles</td>
<td>85% (before 2015 year) (including 5% energy recovery)</td>
</tr>
<tr>
<td></td>
<td>95% (After 2015 year) (including 10% energy recovery)</td>
</tr>
</tbody>
</table>
Thank You !!