Current Trends of Chemical Management Policies in Korea

2010. 9. 9.

Chemicals management division, MOE
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1. Current Status of Chemicals
Current Status of Chemical Industry

- 6th largest in the global chemical industry
- Accounts for 13.4% of the domestic manufacturing Industry

![Shipments in US$ billion](source: International Council of Chemical Association (2007))
Current Status of Chemical Industry – Export & Import

Export: $38.7 Billion (10.6%)

Import: $36.5 Billion (13.5%)

Export of Chemical Industry by Major Country in 2007:
- China: 22.4%
- U.S.A.: 21.1%
- Vietnam: 21.1%
- India: 2.5%
- Others: 2.0%

Import of Chemical Industry by Major Country in 2007:
- Japan: 23.1%
- Germany: 18.9%
- United Kingdom: 15.4%
- Belgium: 13.8%
- France: 6.7%
- Others: 2.7%

Note: The figure is in % of the chemical industry out of manufacturing industries.
Source: Statistics Korea, Korea Development Bank, Korea Stock Bank, Korea Customs Service.
2. Framework of TCCA
## Relevant Laws for Chemicals Management in Korea

13 laws are managed by 7 ministries (including MoE)

<table>
<thead>
<tr>
<th>Target</th>
<th>Ministries</th>
<th>Laws</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic Explosive Chemicals in working places</td>
<td>Ministry of Labor</td>
<td>Industrial Safety and Health Act</td>
</tr>
<tr>
<td>Agricultural Chemicals, Fertilizers</td>
<td>Ministry for Food, Agriculture, Forestry &amp; Fisheries</td>
<td>Agricultural Chemicals Control Act Fertilizers Control Act</td>
</tr>
<tr>
<td>Medical Supplies Narcotics Cosmetics Food additives</td>
<td>Ministry for Health, Welfare Affairs</td>
<td>Pharmaceutical Affairs Act Narcotics control Act Cosmetic Act Food Sanitation Act</td>
</tr>
<tr>
<td>Explosives</td>
<td>Ministry of Public Administration &amp; Security</td>
<td>Explosives Safety Control Act Gun, Sword and Gunpowder Control Act</td>
</tr>
<tr>
<td>High Pressure Gas, Industrial Products</td>
<td>Ministry of Knowledge &amp; Economy</td>
<td>High Pressure Gas Safety Control Act Quality Management and Industrial Products Safety Control Act</td>
</tr>
<tr>
<td>Explosives</td>
<td>Ministry of Land, Transport &amp; Maritime Affairs</td>
<td>Ship Safety Act</td>
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</table>
Present TCCA (rev. 2006)

- Basic law regarding chemicals management in Korea
  “To prevent risk caused by chemicals to human health or the environment” and “to control hazardous chemicals so that everyone can live in a healthy environment”

- Five Chapters
  - Framework Plan for Hazardous Chemicals Control, TRI, etc.
  - New Chemical Notification, Risk Assessment, etc.
  - Safe Control of Toxic Chemicals & Banned or Restricted Chemicals, Responses to Chemical Accidents, etc.
  - Supplementary Provisions
  - Penalty Provisions
TCCA Revision Planning in 2010

- Expansion of the exemption from application of TCCA (Military ammunition and explosives)
- Relaxation of the regulations on import of the restricted and prohibited substances
  - In some cases, a permission of modification → a report of modification
- Additional designation of the substances requiring preparation for accident (56 => 69 Kinds)
Chemicals Management System

Chemicals conformation

Existing chemicals

Safety Test

New Chemicals

Hazard Assessment

Risk Assessment

Restricted or Banned Chemicals

General Chemicals

Toxic Chemicals

Observational Chemicals

Accidental Chemicals

Approval for Import Approval for Business Approval for Export

Manufacturing, Import, Using (without regulation)

Notification of Import Registration of Business

Notification of Manufacturing, Import

Establishment of Emergency Preparedness Plans

Regular or Occasional Inspection Safety Audit, Improvement Orders
**Chemicals Management in Phases**

**Entering to Market**

- Any manufacturer and importer of chemical should confirm whether it is new chemical or existing chemical
- For new chemical, Registration is required for its manufacturer or importer (annually about 400 registrations are conducted)
- For existing chemical, the government (MOE) produces and evaluates hazard data (15~20 substances/y)

=> toxic chemical (606), observational chemical (57), restricted chemical (12), banned chemical (60)
Chemicals Management in Phases

Circulated in Market

• Safety management of toxic chemicals
  − Business operators who deal with toxic chemicals should conduct registration for their type of business
  − And they should prepare relevant facilities which meet safety standards and MOE conducts safety inspection for their facilities
  − Business operator who deal with restricted chemicals should obtain approval for their business
Chemicals Management in Phases

Pollutants Release

- Pollutants Release and Transfer Resister (PRTR)
  - 388 substances—toxic substances, observational substances, carcinogen, etc
  - General information on workplace, annual quantity of chemicals handled and released into the air, water, soil

- Risk Assessment
  - Conducting risk assessment for substances feared to cause significant harms to human health and the environment
  - In accordance with the results, MOE can designate relevant substances as restricted or banned chemicals
Pollutants Release and Transfer Resister (PRTR)

Targeted substances

- 388 substances—toxic substances, observational substances, carcinogen, etc
  - Group I: substances more than 1 ton/y (16 substances including formaldehyde)
  - Group II: substances more than 10 ton/y (372 substances including toluene)

Investigation items

- General information on workplace, annual quantity of chemicals handled
- Quantity of chemicals released into air, water, soil
Open PRTR data to Public
(Public accessibility of PRTR data in Korea)

Opens PRTR data on the website

- make the public easily accessible to the data
- Help the public better understand information on toxic chemicals

http://ncis.nier.go.kr/triopen
Management of POPs in Korea

POP Control Act

- Amendment to include New 9 POPs
- Revise a Basic Strategy for POPs management

Implementation of Convention

- Update National Implementation Plan for POPs
  - Include additional information related to New 9 Chemicals
- Strengthening the Activity for Data Warehouse in East Asia
- Setting up the environmental standard of Crematory (11)
Management of Nano material

Background

- As nano technologies are rapidly develop, the potential risks of nano material are gradually increasing
- To understand current status of use, manufacturing and circulation and to set up safe management policy of nano material

Investigation of present status of circulation of Nano material (’08)

- Investigation of general status of manufacturers and users of nano material
- Statistical analysis of amount and kind of nano material circulated in domestic market
- Analysis of present status of products containing nano material

Establish nano material inventory (’10~’11)

- Formulating a plan for designing & establishing the inventory
- Investigation foreign cases regarding establishment of nano inventory
- Establish nano material inventory (’11)
## Korea GHS Related Regulations

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Authority</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxic Chemicals Control Act</td>
<td>Ministry of Environment</td>
<td>27 GHS Hazard Classifications &amp; Labeling for so-called YudokMool (=Toxic Chemicals) designated by NIER.</td>
</tr>
<tr>
<td>Industrial Safety &amp; Health Act</td>
<td>Ministry of Labor</td>
<td>Hazard Classifications &amp; Labeling and MSDS for chemicals subject to 27 GHS hazards (16 Physical hazards, 10 Health hazards and 1 Environmental hazard)</td>
</tr>
</tbody>
</table>
Korea GHS

Current Implement State of Korea GHS

GHS has been implemented in Korea under following legislations & relevant competent authorities

- Toxic Chemicals Control Act
  Substances July 01, 2011, Mixtures July 01, 2013
- Industrial Safety & Health Act
  Substances July 01, 2010, Mixtures July 01, 2013
- Hazardous Materials Act (old: Fire Service Act)
  by National Emergency Management Agency
  - There is no grace period(GHS is not mandatory under HMA)
Korea GHS

GHS Scope and Application (MoE)

- Classification & Labeling of Substances and Mixtures
- Only Toxic Chemicals defined & published by NIER in government gazette
  (Refer website: http://ncis.nier.go.kr/main/Index.jsp)
- Adopted 27 GHS Hazard Classifications (16 Physical hazards, 10 Health hazards and 1 Environmental hazard)
- Currently about 600 kinds of toxic chemicals (equiv. approx. more than 1,500 substances)

GHS Scope and Application (MoL)

- Substances and Mixtures of Classification & Labeling and SDS
- Adopted 27 GHS hazard classification (16 Physical hazards, 10 Health hazards and 1 Environmental hazard)
  ※ For Yudokmool (Toxic Chemicals specified/published by NIER)
  TCCA will take a precedence over ISHA.

GHS Scope and Application (NEMA)

- Substances and Mixtures of Classification & Labeling
- Focusing 16 GHS physical hazards
## GHS Label Size

<table>
<thead>
<tr>
<th>Capacity of the package</th>
<th>Size</th>
<th>Conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C \geq 500$ litre</td>
<td>450 cm$^2$ or more</td>
<td>$0.25b \leq a \leq 4b$ $0.1 (a \times b) \leq c \times d$</td>
</tr>
<tr>
<td>200 litre $\leq C &lt; 500$ litre</td>
<td>300 cm$^2$ or more</td>
<td>$0.25b \leq a \leq 4b$ $0.1 (a \times b) \leq c \times d$</td>
</tr>
<tr>
<td>50 litre $\leq C &lt; 200$ litre</td>
<td>180cm$^2$ or more</td>
<td>$0.25b \leq a \leq 4b$ $0.1 (a \times b) \leq c \times d$</td>
</tr>
<tr>
<td>5 litre $\leq C &lt; 50$ litre</td>
<td>90cm$^2$ or more</td>
<td>$0.25b \leq a \leq 4b$ $0.1 (a \times b) \leq c \times d$</td>
</tr>
<tr>
<td>$C &lt; 5$ litre</td>
<td></td>
<td>$0.25b \leq a \leq 4b$ $0.1 (a \times b) \leq c \times d$ 5% or more of surface excluding top and bottom area of package</td>
</tr>
</tbody>
</table>
3. Vision of Advanced Chemicals Management
Vision of advancement

Background

- Chemical management systems of each countries are becoming more strict (EU REACH, Japan CSCL..)
- Need to achieve international goal on chemicals management (SAICM)
- Increase of public concern with potential risks of chemical substances

General Concept

- Establish a new effective and developed management system for new & existing chemicals through the analysis of foreign cases like REACH and problems of current system
  - new system will be enforced step by step in a few years
- Main issues of advancement
  - The scope of existing chemicals under registration
  - Communicating information in supply chain
  - Chemical management based on risk information
Vision of advanced Chemicals Management

Detailed concept

- Registration data will be expanded by the quantity of manufacture or import
- MOE is considering to require companies to submit risk assessment data for “substances of high concern”
- Substance which show high risks to human health or environment in certain usages should be regulated by restriction or authorization
- Relevant information from registration data and information on regulated usage or authorization need to be communicated in supply chain
Thank you for your attention

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MOE of KOREA