2010/SOM1/CD/WKSP/006
Agenda Item: Mid-Morning Session

GHS in Korea

Submitted by: Korea
GHS in Korea

Ministry of Environment, Korea
Seo Hae yeop,
March 1, 2010

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- GHS in Korea
  - Implementation Milestones
  - Relevant Legislation
  - Current Implementation Status
  - Scope & Application
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- Labels
- Other Information
GHS

- **GHS**: Globally Harmonized System for Hazard Classification Labeling and Communication by UN

- **Purpose:**
  To reduce unnecessary trade barriers due to different regulations in each country, to save effort and time on toxic/hazardous chemical evaluation, and to provide a frame for the countries who has not established the system yet.

**Korea GHS Implementation Milestones**

2004
Established an interagency joint committee of 7 ministries (Ministry of Environment, Ministry of Labor, National Emergency Management Agency, etc) and an expert working group nominated by each ministries that are NIER, KOSHA, KATS, KOMDIC for GHS information exchange, strategies, legislative provisions and harmonization of GHS implementation in Korea.

Held meetings of interagency joint committee for 14 times up to Dec. 2009 and published official translation of GHS purple book.

- **July 2004, May 2005**
  Held GHS Symposium & Public hearing by KATS

- **Mar 2005 & Dec 2006**
  Produced official translation of GHS Purple Book and Revised version by the expert working group

- **Sept 2006**
  MoL amended Presidential decree and Ministerial decree of ISHA to provide legal ground of GHS implementation
• **NIER**: National Institute of Environmental Research (subsidiary of MOE)
• **KOSHA**: Korea Occupational Safety and Health Agency (subsidiary of MOL)
• **KATS**: Korean Agency for Technology and Standards (subsidiary of MKE)
• **KOMDIC**: Korea Maritime Dangerous goods Inspection Center (subsidiary of MLTM)

※ MKE = Ministry of Knowledge and Economy  
MLTM = Ministry of Land, Transport and Maritime affairs

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**Korea GHS Implementation Milestones**  
*Cont...

**Nov 2006**

Held public hearing by MoE/NIER on basic principle and timeline of GHS implementation, GHS harmonization with MoL and Proposals for legislation amendments.

**Dec-12-2006**  


**Nov-16-2007**

MoE amended Ministerial decree of TCCA to implement GHS – Definition of 27 GHS hazards, Labeling elements, Principles of precedence, etc

**Dec 2007**

MoE/NIER held symposium – 3 times for proposals for regulations and classification process of substances and mixtures
Korea GHS Implementation Milestones

**Cont...**

**Jan-10-2008**
MoL Published Public Notice No 2008-01 (Standard of Classification .Labeling and MSDS of Chemicals) Detailed definition & criteria of each categories of 27 hazard classes, label elements, principles of Precedence order, mixture classification, MSDS requirements .etc

**Jun-27-2008**
MoL published Public Notice No 2008-29 to revise grace period :
For Substances: Jun-30-2010, Mixtures: Jun-30-2013

**July 2008**
NER published Public Notice No 2008-26 (Regulation for Classification & Labeling of Toxic Chemicals, etc) Details of classification criteria & labeling requirements for toxic chemicals. Stipulated grace period of GHS Enforcement: Substances Jun-30-2011, Mixtures: Jun-30-2013

**Nov-13-2008**
NEMA published Public Notice to implement GHS for physical hazard chemicals.

**Current action**
MOE have prepared GHS classification and labeling of more than 1500 Toxic chemicals(Yoodokmul) since 2006

Currently, MOE is reviewing C&L’s for those chemicals and will announce the C&L results by Public Notice in the end of this year or early next year.

-Industrial sector should observe this Public Notice when they prepare labeling or SDS for Toxic chemicals under domestic regulations.
### 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 Implementation Status

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

- Toxic Chemicals Control Act by Ministry of Environment
- Industrial Safety & Health Act by Ministry of Labor
Given grace period, stepwise actual enforcement from

- Industrial Safety & Health Act
  Substances July 01, 2010, Mixtures July 01, 2013

- Toxic Chemicals Control Act
  Substances July 01, 2011, 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 Scope & Application

Toxic Chemicals Control Act

- 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)
Korea GHS Scope & Application
Industrial Safety & Health Act

- Substances and Mixtures of Classification & Labeling and Safety Data Sheet
- 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.

Korea GHS Scope & Application
Hazardous Material Act (old: Fire Service Act)

- Substances and Mixtures of Classification & Labeling
- Focusing 10 GHS physical hazards
### Classification Comparison
**(UN vs. TCCA)**

#### Hazard Class
- Explosives
- Flammable Gases
- Flammable Aerosols
- Oxidising Gases
- Pressurised Gases
  - Compressed Gases
  - Liquefied Gases
  - Refrigerated Liquefied Gases
- Dissolved Gases
- Flammable Liquids
- Flammable Solids
- Self Reactive Substances
  - Type A
  - Type B
  - Type C
  - Type D
  - Type E
  - Type F
  - Type G
- Pyrophoric Liquids
- Pyrophoric Solids
- Self Heating Substances
- Water Reactive
- Oxidising Liquids
- Oxidising Solids
- Organic Peroxides
- Corrosive to Metals

#### Hazard Category

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explosives</td>
<td>unstable</td>
</tr>
<tr>
<td>Flammable Gases</td>
<td>Div 1.1 Div 1.2</td>
</tr>
<tr>
<td>Flammable Aerosols</td>
<td>Div 1.3 Div 1.4</td>
</tr>
<tr>
<td>Oxidising Gases</td>
<td>Div 1.5 Div 1.6</td>
</tr>
<tr>
<td>Compressed Gases</td>
<td>1</td>
</tr>
<tr>
<td>Liquefied Gases</td>
<td>1</td>
</tr>
<tr>
<td>Refrigerated Liquefied Gases</td>
<td>1</td>
</tr>
<tr>
<td>Dissolved Gases</td>
<td>2</td>
</tr>
<tr>
<td>Flammable Liquids</td>
<td>3</td>
</tr>
<tr>
<td>Flammable Solids</td>
<td>4</td>
</tr>
<tr>
<td>Self Reactive Substances</td>
<td>Type A Type B</td>
</tr>
<tr>
<td>Pyrophoric Liquids</td>
<td>Type C Type D</td>
</tr>
<tr>
<td>Pyrophoric Solids</td>
<td>Type E Type F</td>
</tr>
<tr>
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<td>Type G</td>
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<tr>
<td>Water Reactive</td>
<td>1</td>
</tr>
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<td>2</td>
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<tr>
<td>Oxidising Solids</td>
<td>3</td>
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<tr>
<td>Organic Peroxides</td>
<td>1</td>
</tr>
<tr>
<td>Corrosive to Metals</td>
<td>2</td>
</tr>
</tbody>
</table>

### Classification Comparison
**(UN vs. TCCA)**

#### Hazard Class
- Acute Toxicity, Oral
- Acute Toxicity, Dermal
- Acute Toxicity, Inhalation
- Skin Corrosion/Irritation
  - 1A
  - 1B
  - 1C
  - 2
  - 3
- Eye Corrosion/Irritation
  - 1
  - 2A
  - 2B
- Respiratory Sensitisation (S/L)
  - 1
- Skin Sensitisation
  - 1
- Germ Cell Mutagenicity
  - 1A
  - 1B
  - 2
- Carcinogenicity
  - 1A
  - 1B
  - 2
- Reproductive Tox.
  - 1A
  - 1B
  - 2
  - Additional: Lactation
- Target Organ ST - Single Dose
  - 1
  - 2
  - 3
- Target Organ ST - Repeat Dose
  - 1
  - 2
## Classification Comparison
### (UN vs. TCCA)

<table>
<thead>
<tr>
<th>Hazard Class</th>
<th>Hazard Category</th>
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</thead>
<tbody>
<tr>
<td>Aspiration</td>
<td>1</td>
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<tr>
<td>Acute, environment</td>
<td>2</td>
</tr>
<tr>
<td>Chronic, environment</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>

## Classification Comparison
### (UN vs. ISHA)

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<td>1 2 3 4 5</td>
</tr>
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<td>Acute Toxicity, Dermal</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Acute Toxicity, Inhalation</td>
<td>1 2 3 4 5</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>1A 1B 1C 2 3</td>
</tr>
<tr>
<td>Eye Corrosion/Irritation</td>
<td>1 2A 2B</td>
</tr>
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<td>Respiratory Sensitisation (S/L)</td>
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</tr>
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</tr>
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<td>1 2 3</td>
</tr>
<tr>
<td>Target Organ ST - Repeat Dose</td>
<td>1 2</td>
</tr>
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### Additional:
- Lactation

### Classification Comparison (UN vs. ISHA)

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<td>1 2</td>
</tr>
<tr>
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<td>1 2 3</td>
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<td>Chronic, environment</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
Korea GHS Classification & Labeling

- Toxic Chemicals Control Act – Toxic Chemicals specified by NIER/MoE
  Mandatory to follow C&L announced by NIER

- Industrial Safety & Health Act – Industrial Safety & Health Act by MoL
  Self-classification by industry in accordance with ISHA classification criteria

Korea GHS Labeling Requirements

- Language: Korean
- Transportation, handling and storage of hazardous chemical products.
- To be labeled or marked on each package/container of hazardous product.
- The label should contain:
  - Product identification (same as stated in MSDS)
  - Pictogram
  - Signal word
  - Safety statements
  - Precautionary statements
  - Supplier identification
GHS Labeling Requirements (ISHA)

- **Exemptions:**
  - Reagent for test & research provided it is labeled in other language.
  - Import product labeled as per IMDG code or Dangerous Goods Regulation (DGR) up to the first destination only after customs clearance.
  - Export product in storage or in transfer.
  - Product labeled as per other regulations e.g. Toxic chemicals as per TCCA, etc. Dangerous material labeled as per Hazardous Material Act (old: Fire Service Act)

Korea GHS Label Preparation

**Toxic Chemicals Control Act**

- **Product Identifier**
  - Substance: Toxic chemical name (or Common name) and other identification (or CAS No)
  - Mixture: Product name and content (%) of Toxic chemical

- **Pictogram**
  - To indicate all concerned Pictogram
  - Exclamation mark should not be used if skull and crossbones are indicated.
  - Exclamation mark should not be used if corrosion pictogram is indicated.
  - Exclamation mark of skin sensitization or skin/eye irritation should not be if respiratory sensitization pictogram is indicated.
Korea GHS Label Preparation
Toxic Chemicals Control Act

- Signal words
  - To state one stronger signal word i.e. If Danger is used, Warning is not to be used.

- H-Statements
  - To indicate all relevant H-statements.

- P-Statements
  - May indicate up to 6 P-statements according to precedence order.
  
  (NB) NIER will determine and publish relevant classification & labeling of toxic chemicals in government gazette no later than 2011 that industries should follow NIER’s C&L.

Korea GHS Label Preparation
Industrial Safety & Health Act

- Product Identifier
  - Chemical name or Product Name. Should be identical in MSDS.

- Pictogram
  - To indicate maximum 4 pictograms according to precedence order principle
  - Should indicate skull and crossbones only if both exclamation mark and skull & crossbones are applied.
  - Should indicate corrosion pictogram only if both irritation pictogram and corrosion pictogram are applied.
  - Should indicate respiratory sensitization pictogram only if both skin sensitization and respiratory sensitization pictogram are applied.
Korea GHS Label Preparation
Industrial Safety & Health Act

- Signal words
  - To state one stronger signal word i.e. if Danger is used, Warning is not to be used.

- H-Statements
  - To indicate all relevant H-statements.

- P-Statements
  - May indicate up to 6 P-statements according to precedence order principle.
  (*But in the MSDS, to indicate all relevant P-statements)

- Supplier’s information

Korea GHS Label - ISHA
Pre-GHS Label Example
### Label Size

<table>
<thead>
<tr>
<th>Capacity of the package</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>C ≥500 litre</td>
<td>450 cm² or more</td>
</tr>
<tr>
<td>200 litre ≤ C &lt; 500 litre</td>
<td>300 cm² or more</td>
</tr>
<tr>
<td>50 litre ≤ C &lt; 200 litre</td>
<td>180 cm² or more</td>
</tr>
<tr>
<td>5 litre ≤ C &lt; 50 litre</td>
<td>90 cm² or more</td>
</tr>
<tr>
<td>C &lt; 5 litre</td>
<td>5% or more of surface excluding top and bottom area of package</td>
</tr>
</tbody>
</table>

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### GHS in Korea

**GHS Websites – Toxic Chemicals Control Act**

http://ghs.nier.go.kr

Aiming C&L for approx 2,500 specified toxic chemicals by Early 2011
GHS in Korea
GHS Websites – Industrial Safety & Health Act

http://www.kosha.net/index.jsp
C&L and Safety Data Sheet for approx 6,000 substances
(Additional 5,000 substances by the end of 2009)

GHS in Korea
GHS Websites – Hazardous Material Act (old: Fire Service Act)

http://ghs.nema.go.kr/index.jsp
C&L for approx 2,200 substances for physical hazards only
Thank You!

For more information:
Chemicals Management division
delune@korea.kr