



# *GHS in Korea*



*March 17, 2009*



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# 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, etc in Korea.

-Held meetings for 12 times of interagency joint committee up to Mar 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 **1st official translation of GHS Purple Book** and Revised version by EWG

**Sept 2006**

MoL amended Presidential decree and Ministerial decree o ISHA to provide legal ground of GHS implementation



# Korea GHS Implementation Milestones



*Cont...*

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**Nov 2006**

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

**Dec-12-2006**

**MoL published MoL Public Notice No 2006-36** (Standard of Classification, Labeling and MSDS of Chemicals) implementing GHS C&L and MSDS given a transitional period until Jun-30-2008.

**Nov-16-2007**

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



# 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 to:  
**Substances: Jun-30-2010, Mixtures: Jun-30-2013**

**July 2008**

MoE/NIER held symposium on legislative revision for GHS implementation

**Jul-08-2008**

**NIER 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. Grace period to consult & harmonize with MoE and MoL.



# Korea GHS Related Regulations



Regulation	Authority	Remarks
Toxic Chemicals Control Act	Ministry of Environment	27 GHS Hazard Classifications & Labeling for so-called <a href="#">YudokMool</a> (=Toxic Chemical) designated by NIER.
Industrial Safety & Health Act	Ministry of Labor	Hazard Classifications & Labeling and MSDS for chemicals subject to 27 GHS hazards (16 Physical hazards, 10 Health hazards and 1 Environmental hazard)
Hazardous Materials Act (old: Fire Service Act)	National Emergency Management Agency	Hazard Classification & labeling of 16 Physical hazards.



# Korea GHS Related Regulations

## Cont...



Regulation	Authority	Remarks
Agrochemicals Control Act	Ministry of Food, Agriculture, Forestry and Fisheries	Agrochemicals
High Pressure Gas Safety Act	Ministry of Knowledge, Economy	High-pressure gas
Ship Safety Act	Ministry of Land, Transport and Maritime Affairs	Transportation by sea/marine
Aviation Act	Ministry of Land, Transport and Maritime Affairs	Transportation by air
Railroad Act	Ministry of Land, Transport and Maritime Affairs	Transportation by railroad





# 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
- Hazardous Materials Act (old: Fire Service Act) by National Emergency Management Agency



# Korea GHS Current Implementation Status



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



# Korea GHS Scope & Application



## Toxic Chemicals Control Act

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- ❑ Substances and Mixtures of Classification & Labeling
- ❑ Only so-called **Yudokmool** (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 approx 580 types of chemicals  
(more than 1,500 substances)



# Korea GHS Scope & Application

## Industrial Safety & Health Act



- ❑ Substances and Mixtures of Classification & Labeling and Safety Data Sheet
- ❑ All chemicals fall under 27 GHS hazard classification (16 Physical hazards, 10 Health hazards and 1 Environmental hazard)
- ※ **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)

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



# Classification Comparison

## (UN vs. TCCA)



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



# Classification Comparison

## (UN vs. TCCA)



### Hazard Class

Acute Toxicity, Oral  
 Acute Toxicity, Dermal  
 Acute Toxicity, Inhalation  
 Skin Corrosion/Irritation  
 Eye Corrosion/Irritation  
 Respiratory Sensitisation (S/L)  
 Skin Sensitisation  
 Germ Cell Mutagenicity  
 Carcinogenicity  
 Reproductive Tox.  
 Target Organ ST - Single Dose  
 Target Organ ST - Repeat Dose

### Hazard Category

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1A	1B	1C	2	3
1	2A	2B		
1				
1				
1A	1B	2		
1A	1B	2		
1A	1B	2	Additional; Lactation	
1	2	3		
1	2			



# Classification Comparison

## (UN vs. TCCA)



### Hazard Class

### Hazard Category

Aspiration

1	2
---	---

Acute , environment

1	2	3
---	---	---

Chronic, environment

1	2	3	4
---	---	---	---





# Classification Comparison

## (UN vs. ISHA)



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



# Classification Comparison

## (UN vs. ISHA)



### Hazard Class

Acute Toxicity, Oral  
 Acute Toxicity, Dermal  
 Acute Toxicity, Inhalation  
 Skin Corrosion/Irritation  
 Eye Corrosion/Irritation  
 Respiratory Sensitisation (S/L)  
 Skin Sensitisation  
 Germ Cell Mutagenicity  
 Carcinogenicity  
 Reproductive Tox.  
 Target Organ ST - Single Dose  
 Target Organ ST - Repeat Dose

### Hazard Category

1	2	3	4	5
1	2	3	4	5
1	2	3	4	5
1A	1B	1C	2	3
1	2A	2B		
1				
1				
1A	1B	2		
1A	1B	2		
1A	1B	2	Additional; Lactation	
1	2	3		
1	2			



# Classification Comparison

(UN vs. ISHA)



## Hazard Class

## Hazard Category

Aspiration

1	2
---	---

Acute , environment

1	2	3
---	---	---

Chronic, environment

1	2	3	4
---	---	---	---



# Korea GHS Classification & Labeling



- ❑ **Toxic Chemicals Control Act – Yudokmool** specified by NIER/MoE.  
**Mandatory to follow C&L conducted by NIER**
  
- ❑ **Industrial Safety & Health Act – Industrial Safety & Health Act by MoL**  
**Self-classification by industry in accordance with ISHA classification  
criteria**

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# **GHS MSDS in Korea**



# Korea GHS MSDS - Legal Basis



- ❑ Article 41 of Industrial Safety & Health Act by Ministry of Labor
- ❑ MoL Public Notice 2006-36 (Dec-12-2006)
  - ↓
  - MoL Public Notice No 2008-01 (Jan-10-2008)
  - ↓
  - MoL Public Notice No 2008-29 (Jun-27-2008)
- ❑ Implemented in 2006 with grace period:
  - For substances until Jun-30-2010
  - For mixtures until Jun-30-2013



# Korea GHS MSDS

## Industrial Safety & Health Act



### Material Safety Data Sheet Format

1. Product & Company Identification
2. Hazard Identification
3. Composition & Information on Ingredients
4. First aid Measures
5. Fire-fighting Measures
6. Accidental Release Measures
7. Handling and Storage
8. Exposure Controls/Personal Protection
9. Physical and Chemical Properties
10. Stability and Reactivity
11. Toxicological Information
12. Ecological Information
13. Disposal Consideration
14. Transportation
15. Regulatory Information
16. Other Information



# Korea GHS MSDS - Hazard Classification



## Industrial Safety & Health Act

Description	Pre-GHS	GHS
Physical Hazards	6	16
Health and Environmental Hazards	9	11
Total	15	27





# Physical Hazards Classification



Pre-GHS	GHS
Extremely Flammable Highly Flammable Flammable	Flammable gases Flammable aerosols Flammable liquids Flammable solids
Oxidizing	Oxidizing solids, liquids and gases
Explosive	Explosives
Corrosive	Corrosive to metals Compressed gases Self-reactive substances Pyrophoric liquids Pyrophoric solids Self-heating substances Organic Peroxides
Water reactive	Substances which in contact with water, emit flammable gases



# Health & Environmental Hazards Classification



Pre-GHS	GHS
Highly toxic	Acute toxicity
Toxic	
Hazardous	Target organ systemic toxicity - single exposure Target organ systemic toxicity - repeated exposure Aspiration Hazardous
Irritant	Skin corrosion/irritation Serious eye damage/ eye irritation
Sensitization	Respiratory sensitizer Skin sensitizer
Carcinogenicity	Carcinogenicity
Mutagenicity	Mutagenicity
Toxic to reproduction	Reproductive toxicity
Dangerous for environment	Hazardous to the aquatic environment



# Korea GHS MSDS - Application



- Substances
- Mixtures

in Korean Language



# Korea GHS MSDS

## Protection of Confidential Information



- ❑ **May NOT be disclosed in MSDS if they are of confidential data**
  - ❖ Chemical name
  - ❖ CAS No. and other identification number
  - ❖ Contents of ingredients
  
- ❑ **Content of ingredient:**
  - ❖ May indicate as a range within  $\pm 5\%$  of content giving lower and upper limits.
  - ❖ If the content is less than 5%, it shall indicate lower limit as  $>1\%$  (0.1% for carcinogen and germ cell mutagenicity, 0.2% for Respiratory sensitization (gas), 0.3% for Toxic to reproduction).



# Protection of Confidential Information



*Cont...*

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## Except:

- ❖ Toxic chemicals specified by NIER under TCCA
- ❖ Restricted substances as prescribed in Article 37 of ISHA
- ❖ Hazardous substances subject to approvals as prescribed in Article 38 of ISHA
- ❖ Hazardous substances subject to control as prescribed in Article 166 of ISHA
- ❖ When required by industrial health doctor or medical doctors for the purpose of medical treatment.
- ❖ When required by occupational health supervisor for the purpose of workers' health
- ❖ When required by the order of Minister of Labor
- ❖ When required by workers as having occupational disease or other significant health disorder, etc as per collective agreement or safety & hygiene management provision

\* Those who are provided the confidential information shall not use or disclose the given information for any other purpose than medical treatment or workers health protection.



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 1. Product & Company Identification

- a) Product Name (to indicate the same name or code number as shown in label) :
- b) General Product Characteristics :
- c) Hazard Classification (as per the criteria set in Attachment 1) :
- d) Product Usage :
- e) Information on manufacturer (address, emergency contact, responsible person/dept. Etc) (in case of importation, this can be omitted):
- f) Information on supplier/distributor (address, emergency contact, responsible person/dept. Etc):
- g) Issuing department/name :
- h) Issuing date :
- i) Number of revision and the latest revision date :

### 1. Product & Company Identification

- a) Product Name (to indicate the same name or code number as shown in label) :
- b) Recommended use and restrictions
- c) Manufacturer/Supplier/Distributor Information: (Name, Address, Emergency of Information Contact, Responsible department



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 2. Composition/Information on ingredients

- a) Chemical Name
- b) Other Name
- c) CAS No. or Other Identification No.
- d) Content (%)

### 2. Hazards identification

- a) Hazard. Risk Classification:
- b) Label elements including precautionary statements
  - Symbol:
  - Signal Word:
  - Hazard. Risk Statement:
  - Precautionary Statement:
- c) Other Hazard. Risk which are not included in the classification criteria (e.g. dust explosion hazard):



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 3. Hazards Identification

- a) Urgent danger hazards:
- b) Eye effect:
- c) Skin effect:
- d) Inhalation effect:
- e) Ingestion effect:
- f) Chronic symptoms & sign:

### 3. Composition/Information on ingredients

- a) Chemical Name
- b) Other Name
- c) CAS No. or Other Identification No.
- d) Content (%)





# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 4. First aid measures

- a) Eye contact:
- b) Skin contact:
- c) Inhalation:
- d) Ingestion:
- e) Notes for physician:

### 4. First aid measures

- a) Eye Contact :
- b) Skin Contact :
- c) Inhalation :
- d) Ingestion :
- e) Acute and delayed symptoms/effects:
- f) Indication of immediate medical attention and notes for physician:



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 5. Fire-Fighting measures

- a) Flash point :
- b) Auto-Ignition point :
- c) Lower explosive (flammable) limits/Upper explosive (flammable) Limits :
- d) Classification & Regulation by Fire Service Act :
- e) Extinguishing media :
- f) Fire-fighting methods & equipment :
- g) Hazards by combustion :
- h) Extinguishing media to be avoided:

### 5. Fire-Fighting measures

- a) Suitable (and unsuitable) extinguishing media:
- b) Specific hazards arising from the chemical (e.g. nature of any hazardous combustion products):
- c) Special protective equipment and precautions for fire-fighters:



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 6. Accidental release measures

- a) Personal precautions:
- b) Environmental precautions:
- c) Methods for cleaning & disposal:

### 6. Accidental release measures

- a) Personal precautions, protective equipment and emergency procedures:
- b) Environmental precautions and protective procedures:
- c) Methods and materials for containment and cleaning up:

### 7. Handling and storage

- a) Precautions for safe handling
- b) Storage measures and conditions:

### 7. Handling and storage

- a) Precautions for safe handling
- b) Conditions for safe storage (including any incompatibilities):



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 8.Exposure controls & personal protection

- a) Engineering measures:
- b) Respiratory protection:
- c) Eye protection:
- d) Hands protection:
- e) Body protection:
- f) Sanitary cautions:
- g) Exposure limits (to be indicate as per the guidelines of ISHA):

### 8.Exposure controls & personal protection

- a) Control parameters (e.g. occupational exposure limit values, biological limit values):
- b) Appropriate engineering controls:
- c) Personal protective equipment
  - Respiratory protection:
  - Eye protection:
  - Hands protection:
  - Body protection:



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 9. Physical and chemical properties

- a) Appearance:
- b) Odour:
- c) pH:
- d) Solubility:
- e) Boiling points/range:
- f) Melting point/range:
- g) Expressiveness:
- h) Oxidisation:
- i) Vapour pressure:
- j) Specific gravity:
- k) Partition coefficient:
- l) Vapour density:
- m) Viscosity:
- n) Molecular weight:

### 9. Physical and chemical properties

- a) Appearance : (physical state, color etc)
- b) Odour :
- c) Odour threshold:
- d) pH :
- e) Melting point/freezing point:
- f) Initial boiling point and boiling range:
- g) Flash point:
- h) Evaporation rate:
- i) Flammability (solid, gas):
- j) Upper/lower flammability or explosive limits:
- k) Vapour rate:
- l) Solubility:
- m) Vapour density:
- n) Relative density:
- o) Partition coefficient: n-octanol/water:
- p) Auto-ignition temperature:
- q) Decomposition temperature:
- r) Viscosity:
- s) Molecular weight:



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 10. Stability and reactivity

- a) Chemical stability:
- b) Conditions to avoid:
- c) Material to avoid:
- d) Hazard decomposition products:
- e) Hazardous polymerisation:

### 10. Stability and reactivity

- a) Chemical stability:
- b) Possibility of hazardous reaction:
- c) Conditions to avoid (e.g. static discharge, shock or vibration, etc):
- d) Incompatible materials:
- e) Hazard decomposition products :



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

### 11. Toxicological information

- a) Acute oral:
- b) Acute inhalation:
- c) Sub-acute:
- d) Chronic:
- e) Mutagenicity:
- f) Fertility (Reproduction):
- g) Carcinogenic:
- h) Others to note:

## GHS

### 11. Toxicological information

- a) Information on the likely routes of exposure
  - (inhalation):
  - (Ingestion):
  - (Eye. Skin):
- b) Delayed and immediate effects as well as chronic effects from short and long-term exposure
  - Acute toxic (for all possible exposure routes)
  - Skin corrosive/irritant:
  - Serious eye damage/eye irritation:
  - Respiratory sensitization:
  - Skin sensitization:
  - Carcinogenicity:
  - Reproductive Cell Mutagenicity :
  - Reproduction toxicity:
  - Specific target organ.systemic toxicity (single exposure):
  - Specific target organ.systemic toxicity (repeated exposure):
  - Aspiration hazard:
- c) Numerical measures of toxicity (Acute toxicity estimates, etc):



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

### 12. Ecological information

- a) Aquatic and ecotoxicity :
- b) Mobility :
- c) Residue and degradability :
- d) Bioaccumulation :

### 13. Disposal considerations

- a) Disposal regulatory information (under Wastes Management Law):
- b) Disposal method:
- c) Disposal consideration:

## GHS

### 12. Ecological information

- a) Aquatic and terrestrial ecotoxicity:
- b) Persistence and degradability:
- c) Bioaccumulative potential:
- d) Mobility in soil:
- e) Other adverse effects:

### 13. Disposal considerations

- a) Precautions for safe handling
- b) Conditions for safe storage (including any incompatibilities):





# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

## GHS

### 14. Transport information

- a) Classification and regulation under “Regulation for the Carriage and Storage of Dangerous Goods by Ships” :
- b) Cautions for transportation :
- c) Classification and regulation for transportation in other countries :

### 14. Transport information

- a) UN number:
- b) UN proper shipping name:
- c) Transport hazard class:
- d) Packing group (if applicable):
- e) Marine pollutant (To indicate if Yes or No):
- f) Special precaution which a user to be aware of or needs to comply with in connection with transport or conveyance either within or outside their premises:



# Korea GHS - Safety Data Sheet



*(in accordance with the provisions of Article 41, Industrial Safety & Health Act.)*

## Pre-GHS

### 15. Regulatory information

- a) Industrial Safety and Health Act:
- b) Toxic Chemical Control Act. And other regulatory information of chemical substances managed by other ministries:
- c) Other regulations in other countries:

### 16. Other information

- a) Reference (Information source):  
list of the issuing body, the issuing date, references, etc.

## GHS

### 15. Regulatory information

- a) Industrial Safety and Health Act:
- b) Toxic Chemical Control Act:
- c) Dangerous Material Safety Control Act:
- d) Wastes Management Act:
- e) Other requirements in domestic and other countries:

### 16. Other information

- a) Information source and references:
- b) Issuing date:
- c) Revision number and latest revision date:
- d) Others:



# 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 of skin or eye irritation should not be used if corrosion pictogram is indicated.
- ❖ Exclamation mark of skin sensitization or skin/eye irritation should not be used 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 16 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



[ 산업안전보건법 제41조에 의한 경고표지 ]

제품명 : 별도표시



인화성물질



생식독성물질



유해물질

### 유해 · 위험성에 따른 조치사항

- 인화성 물질입니다.
- 흡입 또는 피부에 접촉하거나 삼켰을 경우 유해합니다.
- 생식력을 손상시킬 수도 있습니다.
- 태아에 유해할 수도 있습니다.
- 화기, 열원 등과 모든 점화원 (정전기, 방전 등)으로부터 멀리하십시오.- 금연.
- 사고시나 불쾌감을 느낄 경우에는 즉시 의사의 검진을 받으십시오.(가능하면 라벨의 표시사항을 보여 주십시오.)
- 노출을 피하십시오. - 사용 전에 자세한 사용지침서를 입수하여 읽어 보십시오.

☞ 기타 자세한 사항은 물질안전보건자료(MSDS)를 참조하십시오.



# Korea GHS Label - ISHA



## Product Identifier

(Symbol example)



Signal word :

Hazard Statement :

Precautionary Statements :

Supplier Information :



# Korea GHS Label - ISHA

## (Example)



**제품정보: 벤젠**  
**(CAS No.: 71-43-2)**  
**신호어: 위험**  
**유해위험문구:**  
 1회 노출되면 장기에 손상을 줌  
 고인화성액체 또는 증기  
 눈에 심각한 손상을 일으킴  
 누출되면 유해할 수 있음  
 환경적인 위해를 일으킬 것으로 의심됨  
 기간 또는 반복 노출되면 장기에 손상을  
 일으킬 수 있음  
 장기적인 영향에 의해 수생생물에 대해 독성이  
 있음  
 태아 또는 태어나지 않은 아이에 손상을  
 일으킬 수 있음  
 피부에 자극을 일으킴

### <예방조치문구>

**예방**  
 (의도적인 사용이 아닌 경우) 환경으로 배출하지 마시오  
 (전기적으로 민감한 물질이 재충전되거나 제품이 유해위험 환경을 조성할 만큼 휘발성이 있는 경우) 열기 및 저장용  
 기를 접지·접합 시키시오  
 (제조사 공급자 또는 주무 관청에서 지정한) 눈·안면 보호구를 착용하십시오  
 (제조사 공급자 또는 주무 관청에서 지정한) 보호장갑·보호의를 착용하십시오  
 (제조사 공급자가 지정하거나, 관련법규에서 지정한) 안면보호구를 착용하십시오  
 모든 안전 예방조치문구들을 읽고 이해가 되기 전에는 취급하지 마시오  
 사용 전 취급 설명서를 확보하십시오  
 스파크 방지용 도구만을 사용하십시오  
 열·스파크·화염과 같은 인화원으로부터 격리하십시오 - 금연  
 요구되는 개인 보호구를 착용하십시오  
 용기를 단단히 밀폐하십시오  
 이 제품을 사용시에는 먹거나, 마시거나 흡연하지 마시오  
 입자 및 미스트를 흡입하지 마시오 - 취급 중 호흡성 입자가 발생할 수 있는 경우  
 입자·흄·가스·미스트·증기·스프레이를 흡입하지 마시오  
 정전기 방지 조치를 취하십시오  
 취급 후에는 손을 완전히 씻으시오  
 취급 후에는 손을 철저히 씻으시오  
 취급 후에는 완전히 씻으시오

**응급**  
 (특정 세척제의 사용이 권장된다면 응급처치요령을 참고하여) 정해진 처치를 하시오  
 노출 또는 노출 우려가 있는 경우 의학적인 주의 조언을 받으시오  
 노출 시 의류기관(의사)의 도움을 받으시오  
 누출물을 모으시오  
 눈에 접촉 시 몇 분 간 물로 조심해서 씻어내시오, 가능하면 콘택트렌즈를 제거하십시오, 계속 씻어내시오  
 눈에 접촉 시 몇 분 간 물로 조심해서 씻으시오/ 가능하면 콘택트렌즈를 제거하십시오  
 불편함을 느끼면 의학적인 주의 조언을 받으시오  
 사용전에 오염된 의류는 세탁하십시오  
 섭취할 때 즉시 의류기관(의사)의 도움을 받으시오  
 눈을 씻어내시오  
 즉시 의류기관(의사)의 도움을 받으시오  
 피부(또는 머리카락) 오염 시 즉시 오염된 모든 의류를 벗고, 피부를 물로 씻으시오/샤워하십시오  
 피부(머리카락)에 물렸을 때 즉시 오염된 모든 의복을 벗으시오  
 흡입 시 신선한 공기쪽으로 옮기고 흡취기에 편안한 자세를 유지하십시오

**저장**  
 밀봉하여 저장하십시오  
 환기가 잘 되는 곳에 보관하십시오

**폐기**  
 관련법규에 명시된 경우 규정에 따라 내용물·용기를 폐기하십시오

공급자정보:

전화번호:

개정일자: 2007년 03월 22일

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# Label Size



Capacity of the package	Size
$C \geq 500$ litre	450 cm <sup>2</sup> or more
$200 \text{ litre} \leq C < 500 \text{ litre}$	300 cm <sup>2</sup> or more
$50 \text{ litre} \leq C < 200 \text{ litre}$	180cm <sup>2</sup> or more
$5 \text{ litre} \leq C < 50 \text{ litre}$	90cm <sup>2</sup> or more
$C < 5$ litre	5% or more of surface excluding top and bottom area of package

# 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



회원로그인

아이디

비밀번호

사업자등록번호  -  -

[마이데이터비밀번호찾기](#)

**NOTICE**

- [2008-04-26] 유독물에 대한 GHS 분류·표시(...)
- [2008-03-10] GHS 분류·표시 분류(안)의 산...

**Q&A**

- [2008-05-15] GHS 결과보기
- [2008-05-15] 유해성표시 라벨크기
- [2008-05-02] GHS 결과보기



(404-708) 인천광역시 서구 경서동 종합환경연구단지내  
대표번호 : 032-560-7114 | 관리자 : 032-560-7223~6  
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ONAL





# 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)

The screenshot shows the KOSHANET website with the following elements:

- Header:** KOSHANET logo, navigation links (로그인, 회원정보수정, HOME, NOTICE, SITEMAP), and a search bar.
- Navigation Bar:** 안전보건 DB, 멀티미디어 DB, K2B, 통신교육센터, 참여마당, 안전보건 커뮤니티, 메일/MY PAGE, 한국산업안전보건공단.
- Main Content Area:**
  - Left Sidebar:**
    - 도움말 및 문의 정보 (새로 도착한 매물: 0개, 매일요일: 0 M / 20 M)
    - 기업별 커뮤니티
    - 정보-이동안내 (KOSHANET 서비스란?, KOSHANET 가입안내, KOSHANET 관련 FAQ, KOSHANET 이용약관, KOSHANET 연혁, 저작권 소식)
    - 한국산업안전보건공단 이사장님 인사말 (분부실-국, 산업안전보건연구원, 산업안전보건교육원, 지역본부 및 지주원)
    - 안전보건자료 수집물
  - Center:**
    - 안전보건 DB (별첨정보, KOSHA-CODE, 세미나/워크샵/보고서, One Page Sheets, 대외사례/통계, 안전인증, MSDS/GHS, 안전보건 기술자료, 교육/부패해/홍보자료, 국외정보, 전문가계몽정보(IP), 학교안전정보)
    - 멀티미디어 DB (안전보건 공저서, 매뉴얼/교과, 동영상 KISA, e-Book, 해외 동영상, 안전보건자료, O&A 동영상, O&A 동영상)
  - Right:**
    - 참여마당 (공지사항, 안전보건 GSA, 안전보건 포럼, 안전보건 자료실, 자유게시판, 구인구직, 설문조사, 환경지위의 대화)
    - 안전보건 커뮤니티 (공지사항, 안전보건교육비, 안전보건자료실, 자유게시판, 구인구직, 설문조사, 환경지위의 대화)
    - DB Easy Click (통합검색, 목록, 상세, 인쇄, One Page Sheets, MSDS (영문), MSDS (한문))
    - 통합검색 (제목, 본문)
    - 한국산업안전보건공단 서울선언 (Seoul Declaration on Safety and Health at W)

# 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

**GHS 위험물정보관리시스템**

소방방재청 | 사이트맵

The Globally Harmonized System of Classification and Labelling of Chemicals

문헌정보

검색

커뮤니티

FAQ.....  
GHS관련  
주요질문  
답변사례

네트워크

- 안전보건정보서비스
- GHS
- 화학물질유해성심사
- 화학방재연구센터
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- 위험물정보관리

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