

# GHS in Asia

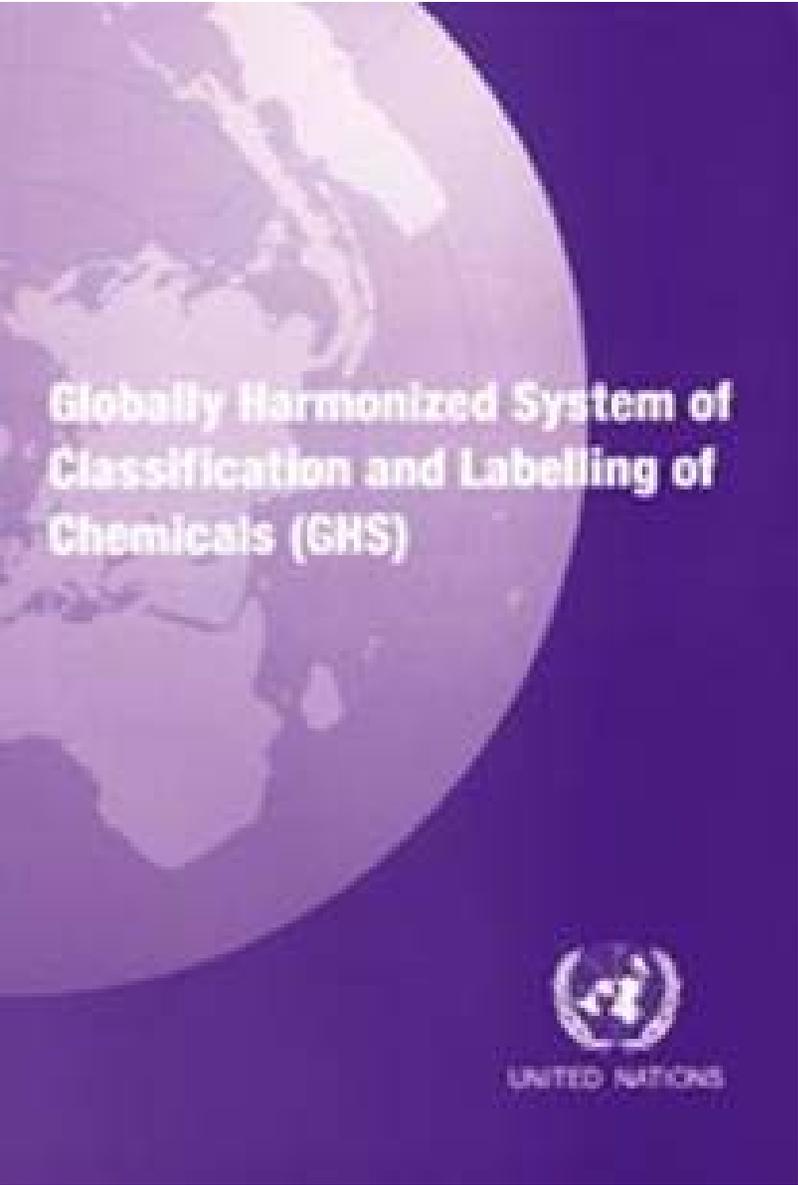


**DARLENE SUSA-ANDERSON**  
**SEPTEMBER 24, 2019**

# WHY ISN'T IT GLOBAL?

- Not yet or maybe never!
- The *system* created by the United Nations was intended for use by countries to use as a template for their own national laws.
- While the aim was to reduce trade barriers, industry often pushes back against implementing new regulations.
- Current status:
  - Gradual implementation around the world
  - Many countries will accept GHS SDSs without officially adopting GHS or choose to implement GHS as a voluntary initiative





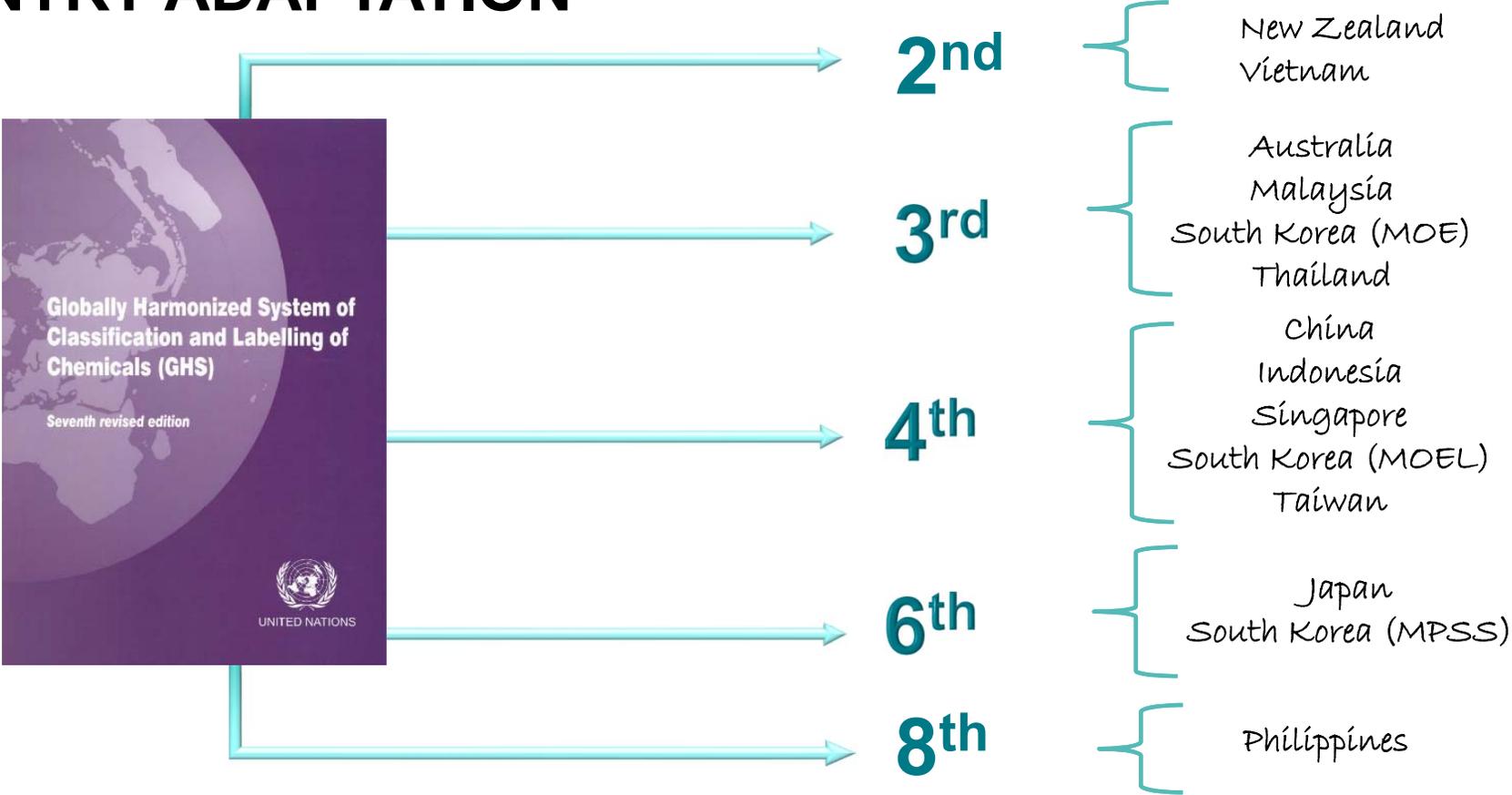
## Globally Harmonized System of Classification and Labelling of Chemicals (GHS)



# WHY ISN'T IT HARMONIZED?

- Multiple revisions of the “Purple Book” to implement against:
  - Initial version available in February 2003
  - First revised edition: published in July 2005 and incorporated approved changes through December 2004
  - Second revised edition: published in October 2007 and incorporated approved changes through December 2006
  - Third revised edition: published in August 2009 and incorporated approved changes through December 2008
  - Fourth revised edition: published in July 2011 and incorporated approved changes through December 2010
  - Fifth revised edition: published in June 2013 and incorporated approved changes through December 2012
  - Sixth revised edition: published in July 2015 and incorporated approved changes through December 2014
  - Seventh revised edition: published in July 2017 and incorporated approved changes through December 2016
  - Eighth revised edition: published in July 2019 and incorporated approved changes through December 2018
- Numerous areas in the Purple Book are left up to the ‘*competent or regulatory authority*’ to determine

# COUNTRY ADAPTATION





**DOES REVISION VERSION MATTER?**  
**BUILDING BLOCKS DO CHANGE....**

# PHYSICAL HAZARDS

	First Edition	Revision 1	Revision 2	Revision 3	Revision 4	Revision 5	Revision 6	Revision 7	Revision 8
Explosives	X	X	X	X	X	X	X	X	X
Flammable gases	X	X	X	X					
Flammable gases (including chemically unstable gases)					X	X			
Flammable gases							X	X	X
Flammable aerosols	X	X	X	X					
Aerosols					X	X	X	X	
Aerosols and chemicals under pressure									X
Oxidizing gases	X	X	X	X	X	X	X	X	X
Gases under pressure	X	X	X	X	X	X	X	X	X
Flammable liquids	X	X	X	X	X	X	X	X	X
Flammable solids	X	X	X	X	X	X	X	X	X
Self-reactive substances and mixtures	X	X	X	X	X	X	X	X	X
Pyrophoric liquids	X	X	X	X	X	X	X	X	X
Pyrophoric solids	X	X	X	X	X	X	X	X	X
Self-heating substances and mixtures	X	X	X	X	X	X	X	X	X
Substances and mixtures, which in contact with water, emit flammable gases	X	X	X	X	X	X	X	X	X
Oxidizing liquids	X	X	X	X	X	X	X	X	X
Organic peroxides	X	X	X	X	X	X	X	X	X
Corrosive to metals	X	X	X	X	X	X	X	X	X
Desensitized explosives								X	X



# FLAMMABLE GASES.....

Table 2.2.2: Label elements for flammable gases

	Category 1	Category 2
Symbol	Flame	No symbol
Signal word	Danger	Warning
Hazard statement	Extremely flammable gas	Flammable gas

← First edition through Revision 3

Table 2.2.3: Label elements for flammable gases (including chemical unstable gases)

	Flammable gas		Chemically unstable gas	
	Category 1	Category 2	Category A	Category B
Symbol	Flame	No symbol	No additional symbol	No additional symbol
Signal word	Danger	Warning	No additional signal word	No additional signal word
Hazard statement	Extremely flammable gas	Flammable gas	May react explosively even in the absence of air	May react explosively even in the absence of air at elevated pressure and/or temperature

← Revisions 4 and 5



# FLAMMABLE GASES.....

Table 2.2.4: Label elements for flammable gases

	Flammable gas		Additional sub-categories		
	Category 1	Category 2	Pyrophoric gas	Chemically unstable gas	
			Pyrophoric gas	Category A	Category B
Symbol	Flame	No symbol	Flame	No additional symbol	No additional symbol
Signal word	Danger	Warning	Danger	No additional signal word	No additional signal word
Hazard statement	Extremely flammable gas	Flammable gas	May ignite spontaneously if exposed to air	May react explosively even in the absence of air	May react explosively even in the absence of air at elevated pressure and/or temperature

← Revision 6

Table 2.2.2: Label elements for flammable gases

	Category 1A	Gases categorized as 1A by meeting pyrophoric or unstable gas A/B criteria			Category 1B	Category 2
		Pyrophoric gas	Chemically unstable gas			
			Category A	Category B		
Symbol	Flame	Flame	Flame	Flame	Flame	No symbol
Signal word	Danger	Danger	Danger	Danger	Danger	Warning
Hazard statement	Extremely flammable gas	Extremely flammable gas. May ignite spontaneously if exposed to air	Extremely flammable gas. May react explosively even in the absence of air	Extremely flammable gas. May react explosively even in the absence of air at elevated pressure and/or temperature	Flammable gas	Flammable gas

← Revisions 7 and 8



# FLAMMABLE AEROSOLS....

**Table 2.3.1: Label elements for flammable aerosols**

	Category 1	Category 2
<b>Symbol</b>	Flame	Flame
<b>Signal word</b>	Danger	Warning
<b>Hazard statement</b>	Extremely flammable aerosol	Flammable aerosol

← First edition through Revision 3

**Table 2.3.1: Label elements for flammable and non-flammable aerosols**

	Category 1	Category 2	Category 3
<b>Symbol</b>	Flame	Flame	<i>No symbol</i>
<b>Signal word</b>	Danger	Warning	Warning
<b>Hazard statement</b>	Extremely flammable aerosol Pressurized container: May burst if heated	Flammable aerosol Pressurized container: May burst if heated	Pressurized container: May burst if heated

← Revisions 4, 5, 6 and 7



# CHAPTER TITLE CHANGES: FLAMMABLE AEROSOLS

**Table 2.3.1: Label elements for flammable aerosols**

	<b>Category 1</b>	<b>Category 2</b>
<b>Symbol</b>	Flame	Flame
<b>Signal word</b>	Danger	Warning
<b>Hazard statement</b>	Extremely flammable aerosol	Flammable aerosol

← First edition through Revision 3



# CHAPTER TITLE CHANGES: FLAMMABLE AEROSOLS TO AEROSOLS

Table 2.3.1: Label elements for flammable aerosols

First edition through Revision 3

	Category 1	Category 2	
Symbol			
Signal word			
Hazard statement			

Table 2.3.1: Label elements for flammable and non-flammable aerosols

← Revisions 4, 5, 6, and 7

	Category 1	Category 2	Category 3
Symbol	Flame	Flame	No symbol
Signal word	Danger	Warning	Warning
Hazard statement	Extremely flammable aerosol Pressurized container: May burst if heated	Flammable aerosol Pressurized container: May burst if heated	Pressurized container: May burst if heated



# CHAPTER TITLE CHANGES: FLAMMABLE AEROSOLS TO AEROSOLS TO AEROSOLS AND CHEMICALS UNDER PRESSURE

Table 2.3.1: Label elements for flammable aerosols

	Category 1	Category 2
Symbol		
Signal word		
Hazard statement		

First edition through Revision 3

Table 2.3.1: Label elements for flammable and non-flammable aerosols

	Category 1	Category 2	Category 3
Symbol	Flame	Flame	No symbol
Signal word	Danger	Warning	Warning
Hazard statement	Extremely flammable aerosol	Flammable aerosol	Non-flammable aerosol

Revisions 4, 5, 6, and 7

Table 2.3.2.1: Label elements for chemicals under pressure

	Category 1	Category 2	Category 3
Symbol	Flame Gas cylinder	Flame Gas cylinder	Gas cylinder
Signal word	Danger	Warning	Warning
Hazard statement	Extremely flammable chemical under pressure: May explode if heated	Flammable chemical under pressure: May explode if heated	Chemical under pressure: May explode if heated

Revision 8:  
New H codes,  
i.e., H282,  
H283, H284



# PHYSICAL HAZARDS

	First Edition	Revision 1	Revision 2	Revision 3	Revision 4	Revision 5	Revision 6	Revision 7	Revision 8
Explosives	X	X	X	X	X	X	X	X	X
Flammable gases	X	X	X	X					
Flammable gases (including chemically unstable gases)					X	X			
Flammable gases							X	X	X
Flammable aerosols	X	X	X	X					
Aerosols					X	X	X	X	
Aerosols and chemicals under pressure									X
Oxidizing gases	X	X	X	X	X	X	X	X	X
Gases under pressure	X	X	X	X	X	X	X	X	X
Flammable liquids	X	X	X	X	X	X	X	X	X
Flammable solids	X	X	X	X	X	X	X	X	X
Self-reactive substances and mixtures	X	X	X	X	X	X	X	X	X
Pyrophoric liquids	X	X	X	X	X	X	X	X	X
Pyrophoric solids	X	X	X	X	X	X	X	X	X
Self-heating substances and mixtures	X	X	X	X	X	X	X	X	X
Substances and mixtures, which in contact with water, emit flammable gases	X	X	X	X	X	X	X	X	X
Oxidizing liquids	X	X	X	X	X	X	X	X	X
Organic peroxides	X	X	X	X	X	X	X	X	X
Corrosive to metals	X	X	X	X	X	X	X	X	X
Desensitized explosives								X	X



# HEALTH HAZARDS

	First Edition	Revision 1	Revision 2	Revision 3	Revision 4	Revision 5	Revision 6	Revision 7	Revision 8
Acute toxicity	X	X	X	X	X	X	X	X	X
Skin corrosion/irritation	X	X	X	X	X	X	X	X	X
Serious eye damage/eye irritation	X	X	X	X	X	X	X	X	X
Respiratory or skin sensitization	X	X	X	X	X	X	X	X	X
Germ cell mutagenicity	X	X	X	X	X	X	X	X	X
Carcinogenicity	X	X	X	X	X	X	X	X	X
Reproductive toxicity	X	X	X	X	X	X	X	X	X
Specific target organ toxicity - single exposure	X	X	X	X	X	X	X	X	X
Specific target organ toxicity - single exposure	X	X	X	X	X	X	X	X	X
Aspiration hazard		X	X	X	X	X	X	X	X



# ENVIRONMENTAL HAZARDS

	First Edition	Revision 1	Revision 2	Revision 3	Revision 4	Revision 5	Revision 6	Revision 7	Revision 8
Hazardous to the aquatic environment	X	X	X	X	X	X	X	X	X
Hazardous to the ozone layer				X	X	X	X	X	X



**THE TEXT OF  
PRECAUTIONARY  
CODES DO  
SOMETIME  
CHANGE**

P Code	Rev 3 and Earlier Text	Rev 4 and Higher Text
P223	Keep away from any possible contact with water, because of violent reaction and possible flash fire.	Do not allow contact with water.
P244	Keep reduction valves free from grease and oil.	Keep valves and fittings free from oil and grease.
P340	Remove victim to fresh air and keep at rest in a position comfortable for breathing.	Remove person to fresh air and keep comfortable for breathing.

# GOOD NEWS

Singapore, Taiwan and Thailand have indicated that they accept later revisions of GHS than the implemented version.

Vietnam accepts versions 2 through 7.



## GOOD NEWS

Singapore, Taiwan and Thailand have indicated that they accept later revisions of GHS than the implemented version.

Vietnam accepts versions 2 through 7.

Malaysia, New Zealand, Singapore, and Taiwan have indicated that they may move to revision 7.

Australia completed their public consultation on moving to revision 7 in July 2019.





## **PUBLISHED GHS CLASSIFICATIONS SUGGESTED OR MANDATORY?**

# PUBLISHED GHS CLASSIFICATIONS

- Australia
- China
- Indonesia
- Japan
- Malaysia
- New Zealand
- South Korea
- Taiwan
- Thailand



# PUBLISHED GHS CLASSIFICATIONS

- Australia
- China
- Indonesia
- Japan
- Malaysia
- New Zealand
- South Korea
- Taiwan
- Thailand

*Suggested or Mandatory?*



# SUGGESTED OR MANDATORY CLASSIFICATIONS?

- Australia
- China
- Indonesia
- Japan
- Malaysia
  - Per the April 2014 Industry Code of Practice, classifications are considered mandatory.
- New Zealand
- South Korea
  - Classifications for MOE designated toxic chemicals are mandatory.
- Taiwan
- Thailand



# PUBLISHED JUSTIFICATION?

- Australia
- China
- Indonesia
- Japan
- Malaysia
- New Zealand
- South Korea
- Taiwan
- Thailand



# PUBLISHED JUSTIFICATION?

- Australia
- China
- Indonesia
- **Japan**
- Malaysia
- **New Zealand**
- South Korea
- Taiwan
- Thailand



# TOLUENE PUBLISHED GHS CLASSIFICATIONS

	Australia	China	Japan	Korea MOE	Korea KOSHA	Malaysia	New Zealand	Taiwan	Thailand
<b>Flammable liquids</b>	2	2	2	2	2	2	2	2	2
Acute Toxicity - Inhalation							4		4
Acute Toxicity - Oral							4	4	5
Skin corrosion/irritation	2	2	2	2	2	2	2	2	2
Serious eye damage/eye irritation			2B		2A		2	2A	2B
Specific target organ toxicity - Single exposure	3	3	1,3	3	3	3			1,3
Reproductive toxicity	1A	2	1A,Effects on or via lactation	2	2	2	2	2	1A
Specific target organ toxicity - Repeated exposure	2	2	1	2	2	2	2	2	1
Aspiration hazard	1	1	1	1	1	1		1	1
Hazardous to aquatic environment - acute hazard		2	2				2		
Hazardous to aquatic environment - chronic hazard		3	3				4	3	
Acute Toxicity - Inhalation - Vapour			4		4				
Terrestrial vertebrate ecotoxicity							3		



# TOLUENE PUBLISHED GHS CLASSIFICATIONS

	Australia	China	Japan	Korea MOE	Korea KOSHA	Malaysia	New Zealand	Taiwan	Thailand
<b>Flammable liquids</b>	2	2	2	2	2	2	2	2	2
Acute Toxicity - Inhalation							4		4
Acute Toxicity - Oral							4	4	5
<b>Skin corrosion/irritation</b>	2	2	2	2	2	2	2	2	2
Serious eye damage/eye irritation			2B		2A		2	2A	2B
Specific target organ toxicity - Single exposure	3	3	1,3	3	3	3			1,3
Reproductive toxicity	1A	2	1A,Effects on or via lactation	2	2	2	2	2	1A
Specific target organ toxicity - Repeated exposure	2	2	1	2	2	2	2	2	1
Aspiration hazard	1	1	1	1	1	1		1	1
Hazardous to aquatic environment - acute hazard		2	2				2		
Hazardous to aquatic environment - chronic hazard		3	3				4	3	
Acute Toxicity - Inhalation - Vapour			4		4				
Terrestrial vertebrate ecotoxicity							3		





# COMPETENT AUTHORITY DECISIONS

# COMPETENT AUTHORITY DECISIONS

- In many areas of the Purple Book, it is stated:
  - It is up to the competent authority...
  - It is up to the regulatory authority....
  - It is up to the authority...
- This flexibility can lead to important differences in implementation

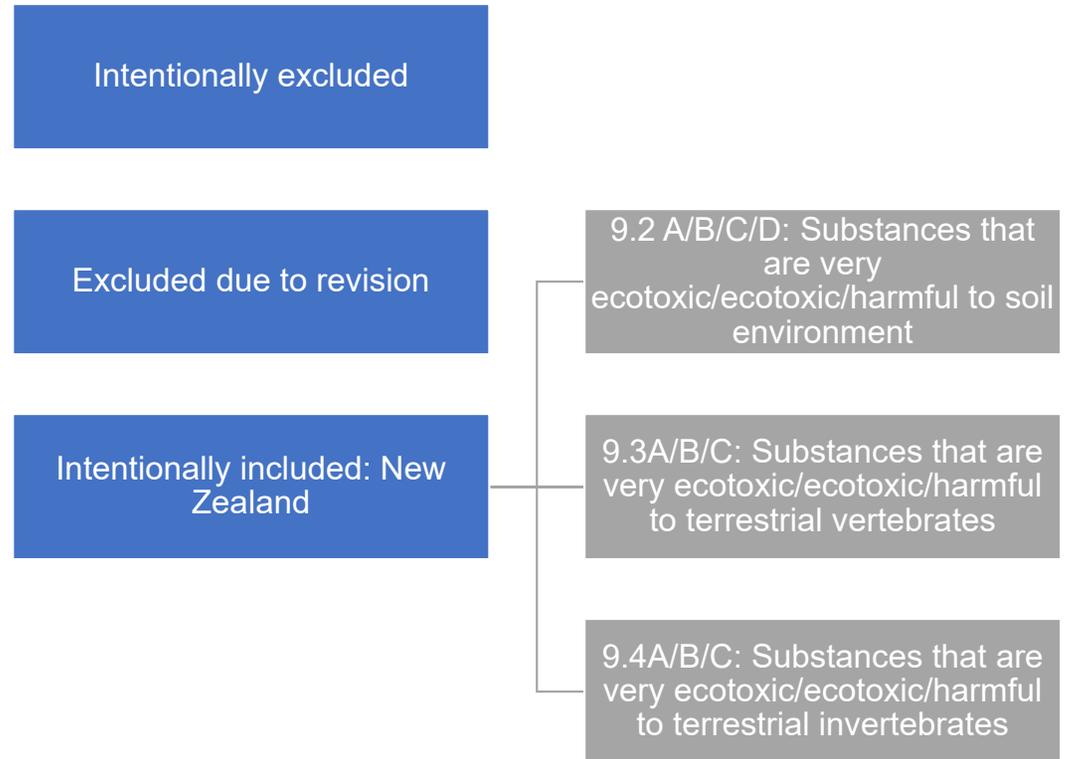


# COMPETENT AUTHORITY DECISIONS - CLASSIFICATION

- What building blocks are included and excluded?
- Is subdivision of certain endpoints required?
- What are the thresholds for mixture classification for?
  - Respiratory/skin sensitizers
  - Carcinogens category 2
  - Reproductive toxicity
  - Systemic target organ toxicity - single exposure - category 2
  - Systemic target organ toxicity - repeated exposure - category 2



# CHOICE OF BUILDING BLOCKS?

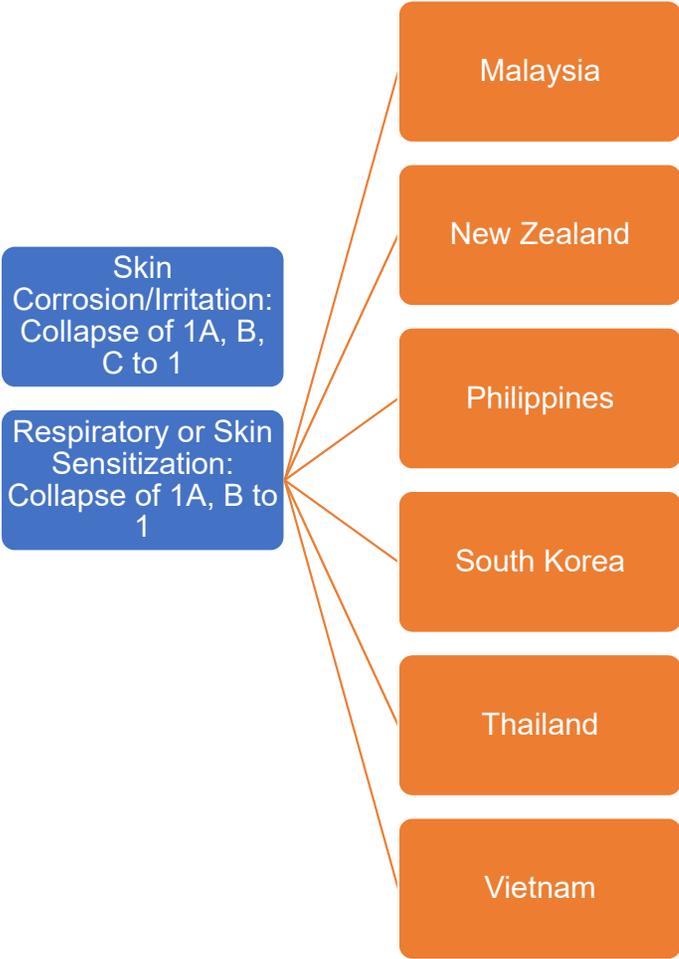


# COMPETENT AUTHORITY DECISIONS - CLASSIFICATION

- What building blocks are included and excluded?
- Is subdivision of certain endpoints required?
- What are the thresholds for mixture classification for?
  - Respiratory/skin sensitizers
  - Carcinogens category 2
  - Reproductive toxicity
  - Systemic target organ toxicity - single exposure - category 2
  - Systemic target organ toxicity - repeated exposure - category 2



# SUBDIVISION OF ENDPOINTS



# COMPETENT AUTHORITY DECISIONS - CLASSIFICATION

- What building blocks are included and excluded?
- Is subdivision of certain endpoints required?
- What are the thresholds for mixture classification for:
  - Respiratory/skin sensitizers
  - Carcinogens category 2
  - Reproductive toxicity
  - Systemic target organ toxicity - single exposure - category 2
  - Systemic target organ toxicity - repeated exposure - category 2



# MIXTURE CLASSIFICATION THRESHOLDS

Ingredient classification	Mixture Classification	
	Category 1 carcinogen	Category 2 carcinogen
Category 1 carcinogen	≥0.1%	
Category 2 carcinogen		≥1.0%

*Australia*

*New Zealand*

Table 15.1: Cut-off values or concentration limits of ingredients

Ingredient classified as category	Cut-off values or concentration limits triggering classification of a mixture as category	
	6.7A	6.7B
6.7A carcinogen	≥ 0.1%	–
6.7B carcinogen	–	≥ 0.1%

Note: The hazard cut-off values or concentration limits in the table apply to solids and liquids (by weight) as well as gases (by volume).

The generic hazard cut-off values or concentration limits do not apply if it can be shown that the substance causes a carcinogenic hazard that will be evident below the generic hazard cut-off values or concentration limits.



# COMPETENT AUTHORITY DECISIONS - LABELLING

- Are there specific provisions for layout?
  - Minimum dimensions of the label and/or symbol?
- Is a black versus red border allowed at any time?
- What are the requirements for disclosure of ingredients?
- What are the options for small container labelling?



# COMPETENT AUTHORITY DECISIONS - LABELLING

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# CONTAINER SIZE DETERMINES LABEL DIMENSIONS

Tabel 2. Persyaratan Ukuran Label GHS

Kapasitas Wadah	Ukuran Label (Milimeter)
Tidak melebihi 3 Liter (Volume < 3L)	Jika memungkinkan, ukuran terkecil 52 x 74
Lebih dari 3 liter tetapi tidak melebihi 50 liter (3L ≤ Volume < 50L)	Ukuran terkecil 74 x 105
Lebih dari 50 liter tetapi tidak melebihi 500 liter (50L ≤ Volume < 500L)	Ukuran terkecil 105 x 148
Lebih dari 500 liter (500L ≤ Volume)	Ukuran terkecil 210 x 297

Indonesia

Content of the Packaging	Dimension of Labels (in millimetres)
Not exceeding 3 litres	If practicable, at least 52 x 74
Greater than 3 litres but not exceeding 50 litres	At least 74 x 105
Greater than 50 litres but not exceeding 500 litres	At least 105 x 148
Greater than 500 litres	At least 148 x 210

Malaysia

Philippines

Container Capacity	Required GHS Label Dimensions
Less than 1 liter	No size specification required but label should be readable.
Greater than 1 - 4 liters (0.066 – 0.792 gallons)	52 mm x 74 mm (2.04" x 2.91")
Greater than 4 – 50 liters (3.17 – 13.2 gallons)	74 mm x 105 mm (2.91" x 4.133")
Greater than 50 – 500 liters (13.2 – 132 gallons)	105 mm x 148 mm (4.133" x 5.82")
Greater than 500 liters (≥ 132 gallons)	148 mm x 210 mm (5.82" x 8.26")



# CONTAINER SIZE DETERMINES LABEL DIMENSIONS

Table 6 – Dimensions of GHS labels

Capacity of container	Dimensions (in millimetres)
Not exceeding 3 litres	If possible, at least 52 x 74
Greater than 3 litres but not exceeding 50 litres	At least 74 x 105
Greater than 50 litres but not exceeding 500 litres	At least 105 x 148
Greater than 500 litres	At least 148 x 210

*Singapore*

용기 또는 포장의 용량	인쇄 또는 표환의 규격
용량 ≥ 500 L	450㎠ 이상
200 L ≤ 용량 < 500 L	300㎠ 이상
50 L ≤ 용량 < 200 L	180㎠ 이상
5 L ≤ 용량 < 50 L	90㎠ 이상
용량 < 5 L	용기 또는 포장의 상하면적을 제외한 전체 표면적의 5% 이상

*South Korea*



# CONTAINER SIZE DETERMINES PICTOGRAM DIMENSIONS

Table 1 Recommended sizes for label elements

Container capacity	Minimum hazard pictogram dimensions	Minimum text size
≤ 500 mL	15 x 15 mm	2.5 mm
> 500 mL and ≤ 5 L	20 x 20 mm	3 mm
> 5 L and ≤ 25 L	50 x 50 mm	5 mm
≥ 25 L	100 x 100 mm	7 mm

*Australia*

Tabel 3. Ukuran Piktogram Bahaya

Ukuran Label (Milimeter)	Ukuran Piktogram (Milimeter)
Jika memungkinkan, ukuran terkecil 52 x 74	Ukuran terkecil 15 x 15
Ukuran terkecil 74 x 105	Ukuran terkecil 25 x 25
Ukuran terkecil 105 x 148	Ukuran terkecil 35 x 35
Ukuran terkecil 210 x 297	Ukuran terkecil 70 x 70

*Indonesia*



# COMPETENT AUTHORITY DECISIONS - LABELLING

- Are there specific provisions for layout?
  - Minimum dimensions of the label and/or symbol?
- **Is a black versus red border allowed at any time?**
- What are the requirements for disclosure of ingredients?
- What are the options for small container labelling?



# RED VERSUS BLACK FRAME ON LABELS OF SHIPPED CONTAINERS?

COUNTRY	ADDRESSED?
Australia	Black allowed.
People's Republic of China	Black allowed instead of red on domestic shipments only.
Singapore	Black allowed instead of red on domestic shipments only.
South Korea	Red preferred but black is allowed if it is "not feasible" to use red.



# COMPETENT AUTHORITY DECISIONS - LABELLING

- Are there specific provisions for layout?
  - Minimum dimensions of the label and/or symbol?
- Is a black versus red border allowed at any time?
- What are the requirements for disclosure of ingredients?
- What are the options for small container labelling?



# SMALL CONTAINERS?

## Defined

China - 100 ml

Korea - 100 ml

New Zealand - 500 g/ml

Taiwan - 100 ml

## Not defined

Australia - too small

Japan - too small

Singapore - impractical to label

## Not addressed

Indonesia

Thailand

Vietnam

# COMPETENT AUTHORITY DECISIONS - SDS

- What is the minimum information for SDS?
- What is the update frequency of SDSs?
- Is there a preferred precedence of hazard information?
- Are precautionary statements mandatory?
- Is there a preferred presentation of concentrations?
- Section 3 contents:
  - What are the restrictions on the pictogram/symbol (graphic, text OR not required at all)?
  - What are the requirements for disclosure of ingredients?
    - Confidentiality provisions?
    - Concentration requirements?



# COMPETENT AUTHORITY DECISIONS - SDS

- What is the minimum information for SDS?
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# SECTION 9 – MINIMUM INFORMATION FOR AN SDS

9.	<b>Physical and chemical properties</b>	(a) Appearance (physical state, colour 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 pressure;
9.	<i>Physical and chemical properties (cont'd)</i>	(l) Vapour density; (m) Relative density; (n) Solubility(ies); (o) Partition coefficient: n-octanol/water; (p) Auto-ignition temperature; (q) Decomposition temperature; (r) Viscosity.

Original edition through Revision 5

Revision 6 and higher

9.	<b>Physical and chemical properties</b>	Physical state; Colour; Odour; Melting point/freezing point; Boiling point or initial boiling point and boiling range; Flammability; Lower and upper explosion limit/flammability limit; Flash point; Auto-ignition temperature; Decomposition temperature; pH.
9.	<i>Physical and chemical properties (cont'd)</i>	Kinematic viscosity; Solubility; Partition coefficient: n-octanol/water (log value); Vapour pressure; Density and/or relative density; Relative vapour density; Particle characteristics.



# NOTES

## Property added: Particle characteristics

- Because it is an important characteristic for solids in specific forms such as nanomaterials or dusts

## Property deleted: Evaporation rate

- Because it is effectively covered by vapour pressure

## Properties renamed:

- '*Appearance*' changed to '*Physical state*' and '*Colour*'
- '*Vapour density*' renamed '*Relative vapour density*'
- '*Viscosity*' renamed '*Kinematic viscosity*'
- '*Initial boiling point and boiling range*' renamed '*Boiling point or initial boiling point and boiling range*'



# COMPETENT AUTHORITY DECISIONS - SDS

- What is the minimum information for SDS?
- What is the update frequency of SDSs?
- Is there a preferred precedence of hazard information?
- Are precautionary statements mandatory?
- Is there a preferred presentation of concentrations?
- Section 3 contents:
  - What are the restrictions on the pictogram/symbol (graphic, text OR not required at all)?
  - What are the requirements for disclosure of ingredients?
    - Confidentiality provisions?
    - Concentration requirements?



# UPDATE FREQUENCY

## Five years

- Australia
- China
- Indonesia
- Malaysia
- New Zealand
- Philippines
- South Korea

## Three years

- Taiwan



# COMPETENT AUTHORITY DECISIONS - SDS

- What is the minimum information for SDS?
- What is the update frequency of SDSs?
- Is there a preferred precedence of hazard information?
- Are precautionary statements mandatory?
- Is there a preferred presentation of concentrations?
- Section 3 contents:
  - What are the restrictions on the pictogram/symbol (graphic, text OR not required at all)?
  - What are the requirements for disclosure of ingredients?
    - Confidentiality provisions?
    - Concentration requirements?



# DISCLOSURE PROVISIONS

4.2.1 A generic name may be used to describe a hazardous ingredient if the identity of the ingredient is commercially confidential and a permissible exposure limit (PEL) has not been established for the ingredient as stipulated under the Act.

4.2.2 Where the exact concentration of an ingredient is CBI, the concentration of the ingredient shall be disclosed using the following allowable concentration range or a narrower range.

Allowable concentration range for ingredients claimed as CBI

<1%
1 to <3%
3 to <5%
5 to <10%
10 to <30%
30 to 60%
>60%

Malaysia

## A.1.1.1 Ingredients for which full disclosure is required

A claim of confidential business information cannot be made for some ingredients. These are ingredients which are present in a quantity which exceeds the cut-off level specified in Table 1 of this part of the standard and:

a) are classified by the criteria in this standard as:

Carcinogenic	Category 1
Germ cell mutagenicity	Category 1
Reproductive toxicity	Category 1
Specific target organ toxicity, single or repeated exposures	Category 1
Skin corrosion or serious eye damage	Category 1
Respiratory sensitisation	Category 1
Acute toxicity	Category 1, 2 and 3;

or

b) have a Singapore PEL<sup>15</sup>.

If the exact amount of the ingredient in the formulation cannot be specified, the proportion range of each ingredient in the product should be indicated so as to provide as much information as possible about the potential hazards of a formulation.

### Example

> 60%	30-60%	10-30%	<10%
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Singapore



# CONTENT OF THE SDS - OPPORTUNITIES FOR VARIANCE

- Section 1: Emergency telephone number
- Section 2: Presentation of classification results including P phrases
- Section 3: Disclosure of ingredients – CBI plus concentration
- Section 8: Country specific OELs and BEIs
- Section 9: Physical properties (depends on version of Purple Book)
- Section 14: Country specific transportation requirements
- Section 15: Regulatory information



# **EMERGENCY TELEPHONE NUMBER**

- Ring in country
  - Australia
  - China (NRCC)
  - Malaysia
  - New Zealand
  - Singapore



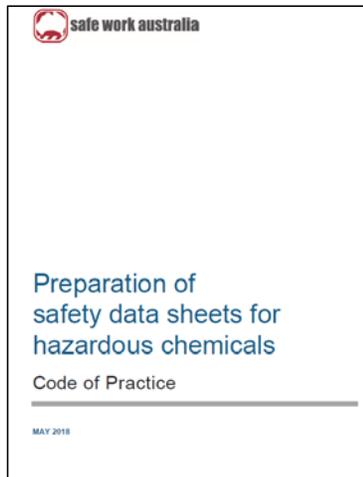
**OFFICIAL  
LANGUAGES**

Australia	English
Indonesia	Indonesian
Japan	Japanese
Malaysia	Malay and English
New Zealand	English
Peoples Republic of China	Simplified Chinese
Philippines	Filipino and English
Singapore	English, Malay, Mandarin and Tamil
South Korea	Korean
Taiwan	Traditional Chinese
Thailand	Thai
Vietnam	Vietnamese



## ADDITIONAL RESOURCES

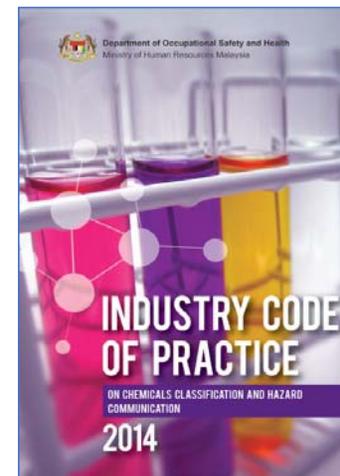
# GUIDANCE; CODES OF PRACTICES; STANDARDS



Australia

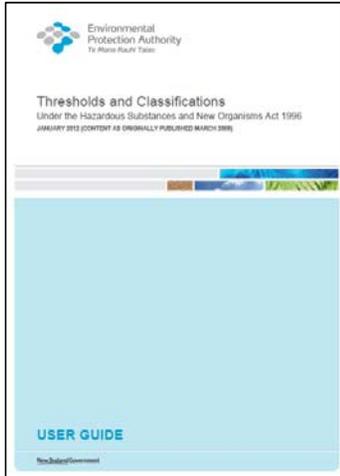


Japan

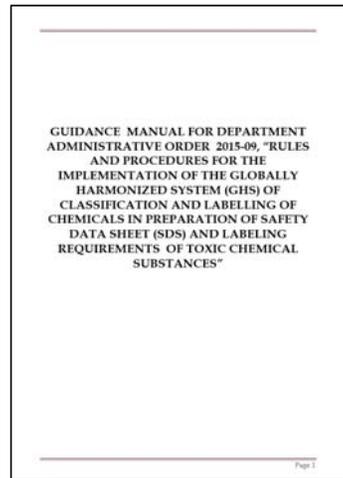


Malaysia

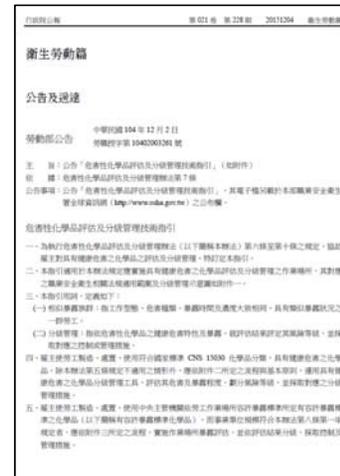




## New Zealand



## Philippines



## Taiwan



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# Convergence or Divergence?

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