Asia-Pacific
Economic Cooperation

2018/SOM1/CD/005a
Agenda Item: 3.C.ii

9th Progress Report on the Implementation of GHS in APEC Economies - Attachments

Purpose: Information
Submitted by: Australia

APEC 2018
PAPUA NEW
GUINEA

20th Chemical Dialogue
Port Moresby, Papua New Guinea
25 February 2018

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **YPW4CG46**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

Date and Time: **19 Jan 2018 12:35:43 PM**

Receipt Number: **global-harmonization-79**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Australia

How are you responding *

- ☐ General Information
- ☐ As a Regulator for the Industrial Workplace Chemicals Sector
- ☐ As a Regulator for the Consumer Products Sector
- ☐ As a Regulator for the Agricultural Chemicals Sectior
- ☒ From Industry for the Industrial Workplace Chemicals Sector
- ☒ From Industry for the Consumer Products Sector
- ☒ From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Accord Australasia

Name

Amanda Hayes

Phone number

+61 2 92812322

Email address

ahayes@accord.asn.au

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

Industry Input - IWCS

Industrial Workplace Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Yes, mostly. There is still some confusion regarding the interface between GHS and other regulatory requirements e.g. whether DG transport marking and labelling only (no GHS labelling) on the transport package is acceptable during medium – long term storage. However, interpretations on these nuances are always expected in implementation of any new/amended regulatory requirements.

382 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

No. GHS is fully implemented in Australia for industrial workplace chemicals as of 1 January 2017. There is a “sell-through” provision in place for products that were labelled before 1 January 2017. Products remaining in the workplace and pre-labelled 1 January 2017 are exempt indefinitely however, those products in the supply chain have sell through provision end dates for some state/territory juristrictions.

415 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Industry expected the following major costs:
- Training regulatory specialists to understand and classify to GHS requirements,
- Re-classifying all products to GHS,
- Re-writing all SDS to GHS requirements including new GHS classification,
- Creating new labels for products to comply with new GHS requirements and classification, and
- GHS training for staff handling chemicals and customers.

396 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Yes, there has been additional costs to those identified above.

There has been some additional cost incurred by some companies dealing mainly with formulated chemicals/mixtures due to not receiving information from their raw materials suppliers in time. This is due to Australia implementing GHS transition for single substances and mixtures at the same time. Some companies had also relabeled their non-GHS labelled products on their warehouse and at their customer sites, as the “sell-through” exemption was not issued until quite close to the full implementation time (decision to exempt made at a national level in late November 2016).

Companies have also identified missed opportunity cost due to resources being redirected from R&D to GHS compliance.

758 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

The main benefit from GHS implementation was expected to be trade facilitation. As Australia already had in place effective workplace chemical risk assessment and management system, introduction of GHS was expected to have minimal beneficial impact from worker safety perspective.

280 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

Yes. The expected benefits from trade facilitation has not materialized mainly due to different adoption of GHS in different economies.

135 of 1000 characters

Organisation/Agency

Accord Australasia

Name

Amanda Hayes

Phone number

+61 2 92812322

Email address

ahayes@accord.asn.au

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Industry Input - CPS

Consumer Products Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Yes, but only if there was an understanding that workplace chemicals GHS implementation affected consumer products. In Australia, GHS classification and SDS is required for consumer products (including cosmetics) but not GHS labels. Labelling requirements for consumer products are set out in separate legislation and exempted from the workplace chemicals regulations.

368 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

The benefits of GHS labelling for consumer products is yet to be shown. Australia has risk management based labelling in place for consumer products through the Poisons Standard. It is unclear how the hazard based GHS labelling will align with the current risk management based labelling. GHS classification and SDS requirements for consumer products are already in place through the workplace chemicals GHS implementation.

423 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Industry expected the following major costs:
- Training regulatory specialists to understand and classify to GHS requirements,
- Re-classifying all products to GHS,
- Re-writing all SDS to GHS requirements including new GHS classification, and
- GHS training for staff handling chemicals and customers

304 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Yes, there has been a small additional cost incurred by some companies due to not receiving information from their raw materials suppliers in time. This is due to Australia implementing GHS transition for single substances and mixtures at the same time.

253 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

There were no identified benefits from GHS implementation for consumer products.

80 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

No.

3 of 1000 characters

Organisation/Agency

Accord Australasia

Name

Amanda Hayes

Phone number

+61 2 92812322

Email address

ahayes@accord.asn.au

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Industry Input - ACS

Agricultural Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Yes, but only if there was an understanding that workplace chemicals GHS implementation affected agricultural chemicals. Prior to GHS implementation, agricultural chemicals were not considered workplace chemicals and its risk management was separate from other workplace chemicals, mainly through the Australian Pesticides and Veterinary Medicines Authority (APVMA).

With the introduction of GHS in Australia, GHS classification, SDS and some GHS labelling elements are now required for agricultural chemicals. Additional labelling requirements for agricultural chemicals are set out in separate legislation, and includes assessment of individual agricultural products by a regulator, the APVMA.

696 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

Yes, there are two different sets of legislative requirements that apply to agricultural chemicals, GHS through the workplace chemicals regulatory requirements and separate dedicated agricultural chemicals risk management system. This is causing significant concern for industry as it increases the confusion in the risk management system. As a further concern for industry, juristrictions have different compliance dates for GHS labeling of this sector.

458 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Industry expected the following major costs:
- Training regulatory specialists to understand and classify to GHS requirements,
- Classifying all products to GHS,
- Re-writing all SDS to include GHS requirements including new GHS classification,
- Creating new labels for products to include new GHS requirements and classification, and
- GHS training for staff handling chemicals and customers, but also reiterating the importance of the risk assessed elements of the label.

474 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Yes, there has been additional costs to those identified above.

There has been some additional cost incurred by some companies dealing mainly with formulated chemicals/mixtures due to not receiving information from their raw materials suppliers in time. This is due to Australia implementing GHS transition for single substances and mixtures at the same time.

Some companies had also relabeled their non-GHS labelled products on their warehouse and at their customer sites, as the “sell-through” exemption was not issued until quite close to the full implementation time (decision to exempt made at a national level in late November 2016).

Companies have also identified missed opportunity cost due to resources being redirected from R&D to GHS compliance.

759 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

There were no benefits identified from GHS implementation as Australia already had in place a robust risk manager and communication system.

140 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

No.

4 of 1000 characters

Organisation/Agency

Accord Australasia

Name

Amanda Hayes

Phone number

+61 2 92812322

Email address

ahayes@accord.asn.au

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **ZM67KS9**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **31 Mar 2017 10:17:33 AM**

Receipt Number: **global-harmonization-50**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Australia

How are you responding *

- ☒ General Information
- ☒ As a Regulator for the Industrial Workplace Chemicals Sector
- ☒ As a Regulator for the Consumer Products Sector
- ☒ As a Regulator for the Agricultural Chemicals Sectior
- ☒ From Industry for the Industrial Workplace Chemicals Sector
- ☒ From Industry for the Consumer Products Sector
- ☒ From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Department of Industry, Innovation and Science

Name

Dr Craig Johnson

Phone number

+61 2 62137350

Email address

Craig.Johnson@industry.gov.au

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2016

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

(•) Yes

( ) No

Is there an overall strategic plan for GHS implementation?

( ) Yes

(•) No

Do you have a GHS co-ordinator to facilitate implementation within your economy?

(•) Yes

( ) No

Please provide your co-ordinators details

Organisation/Agency

Safe Work Australia

Name

Dr Paul Taylor

Phone number

+61 2 6240 6888

Email address

paul.taylor@swa.gov.au

Website

www.safeworkaustralia.gov.au

Do you have a hazard classification database?

- (●) Yes
- ( ) No

Is this database mandatory?

- ( ) Mandatory classification
- (●) Information only

How do you access the database?

The Hazardous Chemicals Information System can be accessed via http://hcis.safeworkaustralia.gov.au/ hosted by Safe Work Australia

130 of 1000 characters

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

- (●) Yes
- ( ) No

Please provide the following details

Lead Government Agency

Safe Work Australia

Contact Person

Dr Paul Taylor

Phone number

+61 2 6240 6888

Email address

paul.taylor@swa.gov.au

Website

www.safeworkaustralia.gov.au

Has GHS been implemented for this sector? *

(●) Yes

( ) No

Which edition of GHS is/was implemented?

Revised Edition 3 (2009)

When is/was GHS fully operational for this sector?

The GHS is implemented for all workplace hazardous chemicals under Australia's model Work Health and Safety laws. On 1 January 2017, 6 out of the 9 jurisdictions in Australia implemented the GHS for classification, labelling and Safety Data Sheets for workplace hazardous chemicals based on Australia's model WHS laws. There was a 5 year transitional period in the lead up to 1 January 2017 to allow businesses to prepare for the GHS. The remaining 3 jurisdictions allows for the operation of the GHS within their existing regulations.

538 of 1000 characters

Have you finalised the relevant legislation to implement GHS?

(●) Yes

( ) No

Please provide the access details to the documentation. E.g. Website link, contact phone number

www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/model-whs-regulations

Do you intend to adopt all GHS hazard classification building blocks as written in the Purple Book?

( ) Yes

(●) No

Please describe the building blocks that will be adopted

Australia's model WHS laws adopt all hazard sub-categories listed in the 3rd revised edition of the GHS, with a few exceptions.

The model WHS Regulations also require that a label include any information about the hazards, first aid and emergency procedures relevant to a chemical that are not otherwise included in the hazard and precautionary statements required under the GHS. Guidance material makes clear that this could include the following 12 non-GHS hazard statements.

Classification criteria for applying these non-GHS hazard statements is provided in Appendix C of the model Code of Practice: Preparation of Safety Data Sheets for Hazardous Chemicals, available at: http://www.safeworkaustralia.gov.au/sites/SWA/about/Publications/Documents/642/Preparation_of_Safety_Data_Sheet_for_Hazardous_Chemicals2.pdf

828 of 1000 characters

Do you intend to adopt any non-GHS classification criteria? E.g. Classification of flammable/combustible liquids beyond 93° Celsius

- (●) Yes
- ( ) No

Please provide full details of non-GHS criteria being considered for adoption

Yes (please see information provided for adoption of GHS building blocks).

74 of 1000 characters

Will there be a risk assessment element overlayed on top of GHS classification on the label?

- ( ) Yes
- (●) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the Safety Data Sheets (SDS)?

Pictograms

- ( ) Yes
- (●) No

Hazard Statements

- ( ) Yes
- ( ) No

Precautionary Statements

- ( ) Yes
- ( ) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the label?

Pictograms

- ( ) Yes
- (●) No

Hazard Statements

- ( ) Yes
- (●) No

Precautionary Statements

◯ Yes

◉ No

How is the hierarchy of Pictograms, Hazard Statements and Precautionary Statements defined?

Pictograms, hazard statements and precautionary statements are all required to be included on labels for workplace hazardous chemicals under the model WHS Regulations. Guidance on the application of label elements is provided in Appendix D to Safe Work Australia's model Code of Practice: Labelling of Workplace Hazardous Chemicals.

Precedence rules for selecting appropriate label elements are provided in Appendix E to the model Code. Part 3 of Schedule 9 to the model WHS Regulations provides reduced labelling requirements for specific situations such as small containers, research chemicals.

The model WHS Regulations clarify that it is not necessary to include content on a label more than once if the label already includes the same or substantially the same content because of other labelling laws, such as the Australian Dangerous Goods Code or Agricultural and Veterinary Chemicals Code Act 1994 (Cth).

922 of 1000 characters

Do you have any arrangements in place to deal with imported chemicals/products? E.g. Will you accept additional classification criteria (GHS or otherwise) not adopted by your economy?

◉ Yes

◯ No

What are your arrangements to deal with imported chemicals/products?

Under Australia's model WHS laws, all hazardous chemicals must be classified in accordance with the 3rd revised edition of the GHS (2009), and be accompanied with a compliant label and SDS. Manufacturers and importers may provide additional classification information, as long as it does not contradict the mandatory GHS hazard information (for example environmental toxicity).

To facilitate the transition to the GHS, hazardous chemicals that were manufactured or imported prior to 1 January 2017 can continue to be supplied after this date without being relabelled in accordance with the GHS, provided they were labelled in accordance with the National Code of Practice: Labelling of workplace substances [NOHSC:2012(1994)].

733 of 1000 characters

Do you have training and awareness activities planned?

◉ Yes

◯ No

What are your planned training and awareness activities?

In 2016, Safe Work Australia raised awareness that the GHS was being implemented at a number of conferences, such as the Fire Australia + Hazmat 2016 Conference and Tradeshow.

Safe Work Australia has developed industry specific guidance for the agricultural and veterinary chemical sector, available at http://www.safeworkaustralia.gov.au/sites/swa/about/publications/pages/labelling-agvet-chemicals. It has released a series of answers to frequently asked questions regarding classification, labels and safety data sheets according to the GHS on its website, and hosted a video explaining the GHS on its Virtual Seminar Series at http://seminars.swa.gov.au/media-by-topic. Safe Work Australia also has a suite of guidance for classification, labelling and the preparation of safety data sheets. A number of awareness campaigns were conducted over 2016. Guidance at: http://www.safeworkaustralia.gov.au/sites/swa/whs-information/hazardouschemicals/pages/hazardous-chemicals-other-substances

998 of 1000 characters

Are there any plans to exchange personnel with another economy to improve harmonisation of GHS implementation?

◯ Yes

◉ No

Please list any specific issues of concern you have experienced so far during your GHS implementation efforts

Minor technical issues with classifying aerosol products. Under section 2.5.2.1 (4th ed) that 'aerosols should not be classified as gases under pressure'.

- Integrating the GHS across other sectors using chemicals, such as consumer products and agricultural and veterinary products. The GHS has only been implemented under WHS laws. There have been challenges in ensuring that it intersects appropriately with sectors that regulate chemicals under separate regulatory frameworks, and in circumstances where a chemical may be used in both work and non work environments.

- The definition of 'article'. Australia defines an article as a manufactured item, other than a fluid or particle, that: (a) is formed into a particular shape or

design during manufacture; and (b) has hazard properties and a function that are wholly or partly dependent on the shape or design.

874 of 1000 characters

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Regulator Input - CPS

Consumer Products Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◉ Yes

◯ No

Please provide the following details

Lead Government Agency

Therapeutic Goods Administration

Contact Person

Chemical Scheduling Secretariat

Phone number

1800 020 653

Email address

Chemicals.Scheduling@health.gov.au

Website

www.tga.gov.au/industry/scheduling.htm

Has GHS been implemented for this sector? *

◯ Yes

◉ No

Do you intend to implement GHS for this sector in the next 2 years? *

◉ Yes

◯ No

Which edition of GHS is/was being implemented?

When is/was GHS be fully operational for this sector?

There is an existing national standard and State and Territory poisons legislation that relate to classification and labelling (amongst other things) based on public health grounds. The Scheduling Policy Framework which provides a basis for the requirements in the national standard, is currently under review.

Until this review is finalised, further consideration of the adoption of the GHS cannot be undertaken. The scheduling policy framework can be found at https://www.tga.gov.au/sites/default/files/scheduling-policy-framework_0.pdf. The Poisons Standard is available at https://www.tga.gov.au/publication/poisons-standard-susmp.

635 of 1000 characters

Have you finalised the relevant legislation to implement GHS?

◯ Yes

◉ No

When do you expect this to be finalised?

Do you intend to adopt all GHS hazard classification building blocks as written in the Purple Book?

◯ Yes

◉ No

Please describe the building blocks that will be adopted

0 of 1000 characters

Do you intend to adopt any non-GHS classification criteria? E.g. Classification of flammable/combustible liquids beyond 93° Celsius

◯ Yes

◯ No

Will there be a risk assessment element overlayed on top of GHS classification on the label?

◉ Yes

◯ No

How will it work?

Risk assessment forms the basis of the current scheduling requirements, and is likely to be an integral part in any adoption of GHS.

132 of 1000 characters

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the Safety Data Sheets (SDS)?

Pictograms

◯ Yes

◯ No

Hazard Statements

◯ Yes

◯ No

Precautionary Statements

◯ Yes

◯ No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the label?

Pictograms

◯ Yes

◯ No

Hazard Statements

◯ Yes

◯ No

Precautionary Statements

◯ Yes

◯ No

How is the hierarchy of Pictograms, Hazard Statements and Precautionary Statements defined?

0 of 1000 characters

Do you have any arrangements in place to deal with imported chemicals/products? E.g. Will you accept additional classification criteria (GHS or otherwise) not adopted by your economy?

◯ Yes

◉ No

Do you have training and awareness activities planned?

◯ Yes

◉ No

Are there any plans to exchange personnel with another economy to improve harmonisation of GHS implementation?

◯ Yes

◉ No

Please list any specific issues of concern you have experienced so far during your GHS implementation efforts

0 of 1000 characters

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Regulator Input - ACS

Agricultural Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◉ Yes

◯ No

Please provide the following details

Lead Government Agency

Safe Work Australia - Australian Pesticides and Veterinary Medicines Authority

Contact Person

APVMA - Ms Helen Stokes

Phone number

61-2-62137350

Email address

coordination@apvma.gov.au

Website

www.apvma.gov.au

Has GHS been implemented for this sector? *

◯ Yes

◉ No

Do you intend to implement GHS for this sector in the next 2 years? *

◉ Yes

◯ No

Which edition of GHS is/was being implemented?

Revised Edition 3 (2009)

When is/was GHS be fully operational for this sector?

GHS is partially implemented by default through implementation of GHS for workplace chemicals applying to agricultural chemicals in Australia. The timeline to add GHS hazard and precautionary statements on agricultural chemical labels will follow GHS implementation for workplace chemicals. Safe Work Australia is responsible for implementing some labelling elements of GHS (hazard and precautionary statements only) for agricultural products. For agricultural chemical product labels that were assessed since the APVMA labelling reforms in 2011, WHS laws require the registrant to add GHS labelling elements to produce label.

630 of 1000 characters

Have you finalised the relevant legislation to implement GHS?

- (●) Yes
- ( ) No

Please provide the access details to the documentation. E.g. Website link, contact phone number

Do you intend to adopt all GHS hazard classification building blocks as written in the Purple Book?

- ( ) Yes
- (●) No

Please describe the building blocks that will be adopted

0 of 1000 characters

Do you intend to adopt any non-GHS classification criteria? E.g. Classification of flammable/combustible liquids beyond 93° Celsius

- ( ) Yes
- (●) No

Will there be a risk assessment element overlayed on top of GHS classification on the label?

- (●) Yes
- ( ) No

How will it work?

GHS information and risk assessment elements will be completely separate. Both sets of information will appear on the label. The APVMA undertakes a risk assessment for all agvet chemicals and must be satisfied that the label contains adequate instructions for safe and effective use before they are registered. The registration/authorisation is for specific uses set out on the label. The instructions for use, relevant hazard information and various other label content required by agvet chemical legislation (referred to as "relevant label particulars") are approved by the APVMA as an outcome of the risk assessment. GHS labelling elements are additional to, and independent of, the relevant label particulars approved the APVMA, and are added by the manufacturer following their self-assessment against the GHS criteria to meet the requirement of WHS legislation for workplace chemicals.

901 of 1000 characters

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the Safety Data Sheets (SDS)?

Pictograms

◯ Yes

◉ No

Hazard Statements

◯ Yes

◉ No

Precautionary Statements

◯ Yes

◉ No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the label?

Pictograms

◯ Yes

◉ No

Hazard Statements

◯ Yes

◉ No

Precautionary Statements

◯ Yes

◉ No

How is the hierarchy of Pictograms, Hazard Statements and Precautionary Statements defined?

0 of 1000 characters

Do you have any arrangements in place to deal with imported chemicals/products? E.g. Will you accept additional classification criteria (GHS or otherwise) not adopted by your economy?

◉ Yes

◯ No

What are your arrangements to deal with imported chemicals/products?

All imported agvet chemicals must be assessed and registered by the APVMA.

75 of 1000 characters

Do you have training and awareness activities planned?

◯ Yes

◉ No

Are there any plans to exchange personnel with another economy to improve harmonisation of GHS implementation?

◯ Yes

◉ No

Please list any specific issues of concern you have experienced so far during your GHS implementation efforts

0 of 1000 characters

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Industry Input - IWCS

Industrial Workplace Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Yes, mostly. There is still some confusion regarding the interface between GHS and other regulatory requirements e.g. whether DG transport marking and labelling only (no GHS labelling) on the transport package is acceptable during medium – long term storage. However, interpretations on these nuances are always expected in implementation of any new/amended regulatory requirements.

384 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

No. GHS is fully implemented in Australia for industrial workplace chemicals as of 1 January 2017. There is a “sell-through” provision in place for products that were labelled before 1 January 2017.

201 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Industry expected the following major costs:
- Training regulatory specialists to understand and classify to GHS requirements,
- Re-classifying all products to GHS,
- Re-writing all SDS to GHS requirements including new GHS classification,
- Creating new labels for products to comply with new GHS requirements and classification, and
- GHS training for staff handling chemicals and customers.

394 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Yes, there has been additional costs to those identified above.

There has been some additional cost incurred by some companies dealing mainly with formulated chemicals/mixtures due to not receiving information from their raw materials suppliers in time. This is due to Australia implementing GHS transition for single substances and mixtures at the same time.
Some companies had also relabeled their non-GHS labelled products on their warehouse and at their customer sites, as the “sell-through” exemption was not issued until quite close to the full implementation time (decision to exempt made at a national level in late November 2016).

Companies have also identified missed opportunity cost due to resources being redirected from R&D to GHS compliance.

763 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

The main benefit from GHS implementation was expected to be trade facilitation. As Australia already had in place effective workplace chemical risk assessment and management system, introduction of GHS was expected to have minimal beneficial impact from worker safety perspective.

281 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

Yes. The expected benefits from trade facilitation has not materialized mainly due to different adoption of GHS in different economies.

136 of 1000 characters

Organisation/Agency

Accord Australasia

Name

Catherine Oh

Phone number

+61 2 9281 2322

Email address

coh@accord.asn.au

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Industry Input - CPS

Consumer Products Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Yes, but only if there was an understanding that workplace chemicals GHS implementation affected consumer products. In Australia, GHS classification and SDS is required for consumer products (including cosmetics) but not GHS labels. Labelling requirements for consumer products are set out in separate legislation and exempted from the workplace chemicals regulations.

370 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

The benefits of GHS labelling for consumer products is yet to be shown. Australia has a risk management based labelling in place for consumer products through the Poisons Standard. It is unclear how the hazard based GHS labelling will align with the current risk management based labelling. GHS classification and SDS requirements for consumer products are already in place through the workplace chemicals GHS implementation.

428 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Industry expected the following major costs:
- Training regulatory specialists to understand and classify to GHS requirements,
- Re-classifying all products to GHS,
- Re-writing all SDS to GHS requirements including new GHS classification, and
- GHS training for staff handling chemicals and customers.

303 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Yes, there has been small additional cost incurred by some companies due to not receiving information from their raw materials suppliers in time. This is due to Australia implementing GHS transition for single substances and mixtures at the same time.

252 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

There were no identified benefits from GHS implementation for consumer products.

80 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

No.

4 of 1000 characters

Organisation/Agency

Accord Australasia

Name

Catherine Oh

Phone number

+61 2 9281 2322

Email address

coh@accord.asn.au

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Industry Input - ACS

Agricultural Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Yes, but only if there was an understanding that workplace chemicals GHS implementation affected agricultural chemicals. Prior to GHS implementation, agricultural chemicals were not considered workplace chemicals and its risk management was separate from other workplace chemicals, mainly through the Australian Pesticides and Veterinary Medicines Authority (APVMA).

With the introduction of GHS in Australia, GHS classification, SDS and some GHS labelling elements are now required for agricultural chemicals. Additional labelling requirements for agricultural chemicals are set out in separate legislation, and includes assessment of individual agricultural products by a regulator, the APVMA.

699 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

Yes, there are two different sets of legislative requirements that apply to agricultural chemicals, GHS through the workplace chemicals regulatory requirements and separate dedicated agricultural chemicals risk management system. This is causing significant concern for industry as it increases the confusion in the risk management system.

340 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Industry expected the following major costs:
- Training regulatory specialists to understand and classify to GHS requirements,
- Classifying all products to GHS,
- Re-writing all SDS to include GHS requirements including new GHS classification,
- Creating new labels for products to include new GHS requirements and classification, and
- GHS training for staff handling chemicals and customers, but also reiterating the importance of the risk assessed elements of the label.

475 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Yes, there has been additional costs to those identified above.

There has been some additional cost incurred by some companies dealing mainly with formulated chemicals/mixtures due to not receiving information from their raw materials suppliers in time. This is due to Australia implementing GHS transition for single substances and mixtures at the same time.

Some companies had also relabeled their non-GHS labelled products on their warehouse and at their customer sites, as the “sell-through” exemption was not issued until quite close to the full implementation time (decision to exempt made at a national level in late November 2016).

Companies have also identified missed opportunity cost due to resources being redirected from R&D to GHS compliance.

764 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

There were no benefits identified from GHS implementation.

58 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

No.

3 of 1000 characters

Organisation/Agency

Accord Australasia

Name

Catherine Oh

Phone number

+61 2 9281 2322

Email address

coh@accord.asn.au

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **AFRSBSLA**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **09 Jan 2018 5:55:42 AM**

Receipt Number: **global-harmonization-75**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Chile

How are you responding *

- [x] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

NATIONAL MARITIME AUTHORITY

Name

CARLOS CACERES

Phone number

+56997003508

Email address

CACERES626@GMAIL.COM

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2015

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

(•) Yes

( ) No

Is there an overall strategic plan for GHS implementation?

(•) Yes

( ) No

Please provide an overview of the stategic plan.

DOCUMENTS OF THE WORLD MARITIME ORGANIZATION

44 of 1000 characters

Please attach the strategic plan for GHS implementation.

File: None

Do you have a GHS co-ordinator to facilitate implementation within your economy?

( ) Yes

(•) No

Do you have a hazard classification database?

◯ Yes

◯ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **47HNA83M**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **13 Jan 2018 5:49:02 AM**

Receipt Number: **global-harmonization-78**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Chile

How are you responding *

- [ ] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [x] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Asiquim

Name

Sergio

Phone number

5622203359

Email address

gerente@asiquim.cl

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

Industry Input - IWCS

Industrial Workplace Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

Not yet implemented

Now the regulation is om public consultation stage.

73 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

Delay on the regulator for lack of resources.

47 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Cannot be calculated nor estimated without studies.

52 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Not yet implemented

20 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

Reduce of diverse clasification among chenicals.

49 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

Not yet implemented

20 of 1000 characters

Organisation/Agency

Asiquim

Name

Sergio

Phone number

5622203359

Email address

gerente@asiquim.cl

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **CKNCBYM9**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **04 Jan 2018 2:48:38 PM**

Receipt Number: **global-harmonization-68**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Chinese Taipei

How are you responding *

- [x] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [x] As a Regulator for the Consumer Products Sector
- [x] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Safety and Health Technology Center (SAHTECH)

Name

Dr. Jowitt Li

Phone number

+886-6-2937770

Email address

joli@sahtech.org

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2016

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

( ) Yes

(•) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

( ) Yes

( ) No

Do you have a hazard classification database?

( ) Yes

( ) No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

( ) Yes

( ) No

Regulator Input - CPS

Consumer Products Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◯ Yes

◯ No

Regulator Input - ACS

Agricultural Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◯ Yes

◯ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **2JLTKQAC**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **07 Dec 2017 5:43:11 PM**

Receipt Number: **global-harmonization-61**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Hong Kong, China

How are you responding *

- [x] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [x] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Trade and Industry Department

Name

Tse Chun Yuen

Phone number

(852) 2398 5447

Email address

jamesontse@tid.gov.hk

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

( ) Yes

(•) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

( ) Yes

( ) No

Do you have a hazard classification database?

( ) Yes

( ) No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

( ) Yes

( ) No

Regulator Input - ACS

Agricultural Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◯ Yes

◯ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **YFACZXN2**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **20 Oct 2017 4:56:49 PM**

Receipt Number: **global-harmonization-55**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Japan

How are you responding *

- [x] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Ministry of Economy, Trade and Industry

Name

Akihiko Ikegawa

Phone number

Email address

ikegawa-akihiko@meti.go.jp

Have you completed a GHS implementation status report in previous years? *

◯ Yes ◉ No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

◉ Yes

◯ No

Is there an overall strategic plan for GHS implementation?

◉ Yes

◯ No

Please provide an overview of the stategic plan.

0 of 1000 characters

Please attach the strategic plan for GHS implementation.

File: None

Do you have a GHS co-ordinator to facilitate implementation within your economy?

◉ Yes

◯ No

Please provide your co-ordinators details

Organisation/Agency

Name

Phone number

Email address

Website

Do you have a hazard classification database?

◯ Yes

◯ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **KS8GNCKX**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **08 Jan 2018 1:49:46 AM**

Receipt Number: **global-harmonization-71**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Malaysia

How are you responding *

- [x] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Ministry of International Trade and Industry

Name

Mohd Reza Azman

Phone number

Email address

reza.azman@miti.gov.my

Have you completed a GHS implementation status report in previous years? *

◯ Yes ◉ No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

◉ Yes

◯ No

Is there an overall strategic plan for GHS implementation?

◯ Yes

◉ No

Do you have a GHS co-ordinator to facilitate implementation within your economy?

◉ Yes

◯ No

Please provide your co-ordinators details

Organisation/Agency

Ministry of International Trade and Industry

Name

Mohd Reza Azman

Phone number

Email address

reza.azman@miti.gov.my

Website

Do you have a hazard classification database?

(●) Yes

( ) No

Is this database mandatory?

( ) Mandatory classification

(●) Information only

How do you access the database?

0 of 1000 characters

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **P63D6JSZ**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **08 Jan 2018 1:53:06 AM**

Receipt Number: **global-harmonization-72**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Malaysia

How are you responding *

- [x] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Ministry of International Trade and Industry

Name

Anna Amalina Imam Baweh

Phone number

Email address

anna@miti.gov.my

Have you completed a GHS implementation status report in previous years? *

◯ Yes ◉ No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

◉ Yes

◯ No

Is there an overall strategic plan for GHS implementation?

◯ Yes

◉ No

Do you have a GHS co-ordinator to facilitate implementation within your economy?

◉ Yes

◯ No

Please provide your co-ordinators details

Organisation/Agency

Ministry of International Trade and Industry

Name

Anna Amalina Imam Baweh

Phone number

Email address

anna@miti.gov.my

Website

Do you have a hazard classification database?

(●) Yes

( ) No

Is this database mandatory?

( ) Mandatory classification

(●) Information only

How do you access the database?

0 of 1000 characters

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **THCDYS78**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **08 Jan 2018 4:56:40 PM**

Receipt Number: **global-harmonization-74**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Malaysia

How are you responding *

- [ ] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Department of Occupational Safety and Health Malaysia

Name

Shabanon Mohd Sharif

Phone number

603-8871 1276

Email address

shabanon@mohr.gov.my

Have you completed a GHS implementation status report in previous years? *

◯ Yes ◉ No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◉ Yes

◯ No

Please provide the following details

Lead Government Agency

Department of Occupational Safety and Health Malaysia

Contact Person

Shabanon Mohd Sharif

Phone number

603-8871 1276

Email address

shabanon@mohr.gov.my

Website

www.dosh.gov.my

Has GHS been implemented for this sector? *

◉ Yes

◯ No

Which edition of GHS is/was implemented?

Revised Edition 3 (2009)

When is/was GHS fully operational for this sector?

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 was gazetted on 11th October 2013 (CLASS Regulations 2013). However, full enforcement and implementation of the Regulations start from 17th April 2015

271 of 1000 characters

Have you finalised the relevant legislation to implement GHS?

- (●) Yes
- ( ) No

Please provide the access details to the documentation. E.g. Website link, contact phone number

http://www.dosh.gov.my/index.php/en/legislation/regulations-1/osha-1994-act-154/1125-01-oc

Do you intend to adopt all GHS hazard classification building blocks as written in the Purple Book?

- ( ) Yes
- (●) No

Please describe the building blocks that will be adopted

As specified in the 1st Schedule of Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 (CLASS Regulations)

176 of 1000 characters

Do you intend to adopt any non-GHS classification criteria? E.g. Classification of flammable/combustible liquids beyond 93° Celsius

- ( ) Yes
- (●) No

Will there be a risk assessment element overlayed on top of GHS classification on the label?

- ( ) Yes
- (●) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the Safety Data Sheets (SDS)?

Pictograms

- ( ) Yes
- (●) No

Hazard Statements

- ( ) Yes
- (●) No

Precautionary Statements

- ( ) Yes
- (●) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the label?

Pictograms

◯ Yes

◉ No

Hazard Statements

◯ Yes

◉ No

Precautionary Statements

◉ Yes

◯ No

How many?

6

How is the hierarchy of Pictograms, Hazard Statements and Precautionary Statements defined?

If the hazardous chemical is classified within several hazard classes, all hazard statements and pictograms resulting from the classification is to be included in label and SDS. However there are rules of precedence specified for hazard statements and hazard pictogram on label (refer to regulation 10 of CLASS Regulations 2013)

328 of 1000 characters

Do you have any arrangements in place to deal with imported chemicals/products? E.g. Will you accept additional classification criteria (GHS or otherwise) not adopted by your economy?

◉ Yes

◯ No

What are your arrangements to deal with imported chemicals/products?

Chemicals supplied for use at the workplace, which includes imported chemicals need to be classified according to the list of classified chemicals specified in Part 1 or according to Part 2 of the Industry Code of Practice on Chemicals Classification and Hazard Communication. The building block is as specified in 1st Schedule of CLASS Regulations 2013.
Other than classification, imported chemical (and manufactured chemicals) classified as hazardous exceeding 1 metric tonne per year (for each chemical) is required to be included in an inventory which to be submitted before 31st March every year by the importer (and/or manufacturer).

640 of 1000 characters

Do you have training and awareness activities planned?

◉ Yes

◯ No

What are your planned training and awareness activities?

The training and awareness was carried out in 2009 - 2015 which involved participants from government agency and industries. After 2015, the training on classification was carried out by the training provided recognized by the Department (DOSH).

246 of 1000 characters

Are there any plans to exchange personnel with another economy to improve harmonisation of GHS implementation?

◯ Yes

◉ No

Please list any specific issues of concern you have experienced so far during your GHS implementation efforts

lack of expertise in GHS classification especially in physical hazard and interpretation of testing result/data;
limited testing facilities available locally (in Malaysia)

172 of 1000 characters

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **V6CRT5BV**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **12 Jan 2018 9:15:47 PM**

Receipt Number: **global-harmonization-73**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Malaysia

How are you responding *

- [ ] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [x] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Chemical Industries Council of Malaysia (CICM)

Name

Chan Pek Wan

Phone number

603-6286 7200

Email address

pek_wan@fmm.org.my

Have you completed a GHS implementation status report in previous years? *

◯ Yes ◉ No

Industry Input - IWCS

Industrial Workplace Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

The CLASS Regulations 2013 and the Industry Code of Practice on Chemicals Classification and Hazard Communication 2014 (ICOP CHC 2014) governing the implementation of GHS at industrial workplace are available at the Department of Occupational Safety and Health (DOSH) website to guide industry compliance to GHS.

The Ministry of International Trade and Industry (MITI) together with LESTARI, UKM have developed a website to help local companies to classify their mixture chemicals based on available data.

507 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

Awareness among oversea suppliers and SME companies on the GHS requirements is still lacking.

Lack of resources / expertise to classify chemicals and prepare as well as translate SDS to local language and testing capabilities & facilities. Industry has to incur cost for the above.

Different countries adopting different versions of GHS in their implementing regulations / standards will cause confusion and extra compliance costs to companies, especially those supplying to many countries

493 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

Companies will incur cost to engage expertise to classify their chemicals, translate SDS and also training of staffs to ensure compliance to the local GHS regulations as well as those abroad.

There will also be cost for printing of new labels in colour and also labour cost to label it on the product according to local GHS requirements

339 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Higher cost in printing and labour cost:
- Higher cost in printing due to more colours on the label.
- For labour cost, it has increased slightly too due to more labels to be pasted on the product, as GHS adoption include environmental and aspiration hazards which resulted in more products requiring GHS labels.

315 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

Malaysia has country specific requirements (bilingual SDS and label); therefore GHS adoption does not really help to promote cost and time efficiency.

It would be useful to have a single and unified GHS adoption among all countries to reap the full benefits of GHS implementation

282 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

Better harmonisation in classification of chemicals and with standardized hazard pictograms, provides better understanding and communication to employees handling of chemicals. This will help minimize accidents / incidents at workplace.

237 of 1000 characters

Organisation/Agency

Chemical Industries Council of Malaysia (CICM)

Name

Chan Pek Wan

Phone number

603-6286 7200

Email address

pek_wan@fmm.org.my

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **59PYQAA8**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

Date and Time: **03 Jan 2018 5:20:06 PM**

Receipt Number: **global-harmonization-65**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Malaysia

How are you responding *

- [ ] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

MINISTRY OF INTERNATIONAL TRADE AND INDUSTRY

Name

ANAS

Phone number

0362084611

Email address

anas.khairul@miti.gov.my

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2015

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

( ) Yes

(•) No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

( ) Yes

( ) No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **6DC6BTJZ**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **29 Oct 2017 9:22:41 PM**

Receipt Number: **global-harmonization-56**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Philippines

How are you responding *

- [ ] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [x] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

SAMAHAN SA PILIPINAS NG MGA INDUSTRIYANG KIMIKA (SPIK)

Name

GRETCHEN FONTEJON- ENARLE

Phone number

+639175901811

Email address

g_fontejon@boysen.com.ph

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2016

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

Industry Input - IWCS

Industrial Workplace Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

DENR- EMB and DOLE- OSHC regulation are available for GHS. However, it will be a lot easier if there are available tools for the classification.

145 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

- Adoption of a single building block among agencies implementing GHS. Currently, the regulators are still finalizing the building block

- Lack of capacity and knowledge in GHS among agencies implementing GHS. Previously GHS- trained regulators were either re-assigned to another area or department or have resigned from work

- Inadequate awareness raising, seminar making it more difficult to implement the GHS in the micro, small and medium enterprises

- Concern on CBI because the Customs sometimes require for a 100% composition maybe due to overlapping regulatory concern on certain chemicals

616 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

The Impact of GHS implementation will be felt when the regulation or inclusion of mixture will be implemented.

110 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

Not much for the first 3- years of implementation from 2016- 2018 as these are majority chemical substances:

2016 - CCO and PCL substances
2017- High Volume Chemicals
2018- Toxic chemicals under IATA and IMDG
2019- Mixture

However, changing of packaging label from non-GHS compliant label to a GHS-compliant label will be very costly.

337 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

The industry is expecting that with the GHS implementation, it will not be a burden rather to facilitate trade so that it will not defeat the purpose of harmonization.

167 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

The industry is expecting that with the GHS implementation, it will not be a burden rather to facilitate trade so that it will not defeat the purpose of harmonization.

167 of 1000 characters

Organisation/Agency

ENVIRONMENTAL MANAGEMENT BUREAU

Name

EMMANUELITA MENDOZA

Phone number

+639189392322

Email address

emb.mendoza@gmail.com

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **YL83WTGA**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **20 Nov 2017 7:56:33 PM**

Receipt Number: **global-harmonization-59**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Russia

How are you responding *

- [x] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [x] As a Regulator for the Consumer Products Sector
- [x] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Name

Phone number

Email address

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2016

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

( ) Yes

(•) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

( ) Yes

( ) No

Do you have a hazard classification database?

( ) Yes

( ) No

Regulator Input - CPS

Consumer Products Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

( ) Yes

( ) No

Regulator Input - ACS

Agricultural Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◯ Yes

◯ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **XATJT2WQ**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **06 Dec 2017 2:35:09 PM**

Receipt Number: **global-harmonization-60**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Russia

How are you responding *

- [x] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [x] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Name

Phone number

Email address

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

( ) Yes

(•) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

( ) Yes

( ) No

Do you have a hazard classification database?

( ) Yes

( ) No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

( ) Yes

( ) No

Regulator Input - ACS

Agricultural Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

◯ Yes

◯ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **72D6WS96**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **04 Jan 2018 12:33:58 AM**

Receipt Number: **global-harmonization-66**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Russia

How are you responding *

- [x] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

CIS Center

Name

Natalia Druzhinina

Phone number

+7(495)128 95 45

Email address

n.druzhinina@ciscenter.org

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

(•) Yes

( ) No

Is there an overall strategic plan for GHS implementation?

( ) Yes

(•) No

Do you have a GHS co-ordinator to facilitate implementation within your economy?

(•) Yes

( ) No

Please provide your co-ordinators details

Organisation/Agency

Ministry of Industry and Trade of the Russian Federation

Name

Mr. Sergey Tsyb

Phone number

+7 (495) 980-28-44

Email address

Website

http://minpromtorg.gov.ru/

Do you have a hazard classification database?

- ◯ Yes
- ◉ No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

- ◉ Yes
- ◯ No

Please provide the following details

Lead Government Agency

Ministry of Industry and Trade of the Russian Federation

Contact Person

Mr. Sergey Tsyb

Phone number

+7 (495) 980-28-44

Email address

Website

http://www.minpromtorg.gov.ru/

Has GHS been implemented for this sector? *

- ◉ Yes
- ◯ No

Which edition of GHS is/was implemented?

Revised Edition 4 (2011)

When is/was GHS fully operational for this sector?

GHS is fully operational in Russia from 2009 within intergovernmental standards applied on voluntary basis:
GOST 32419-2013 Classification of chemicals. General requirements GOST 32423-2013 Mixtures classification of hazard for health GOST 32424-2013 Classification of chemicals for environmental hazards. General principles GOST 32425-2013 Mixtures classification of hazard for environmental GOST

30333-2007 Chemical production safety passport. General requirements GOST 31340-2013 Labelling of chemicals. General requirements
However, they will become mandatory for application only when the Technical Regulation of the Eurasian Economic Union "On the safety of chemical products" (TR EAEU 041/2017) comes into force. This Regulation was adopted on March 3, 2017 through Decision No. 19 of the Council of the Eurasian Economic Commission, with a transitional period of 4 years (ending on June 2, 2021).

904 of 1000 characters

Have you finalised the relevant legislation to implement GHS?

- (●) Yes
- ( ) No

Please provide the access details to the documentation. E.g. Website link, contact phone number

http://www.eurasiancommission.org/ru/act/texnreg/deptexreg/tr/Pages/TR_EEU_041_2017.aspx

Do you intend to adopt all GHS hazard classification building blocks as written in the Purple Book?

- (●) Yes
- ( ) No

Please indicate the cut-off points you will be adopting where the choice is given in the Purple Book. E.g. Sensitisers

Respiratory sensitizer ≥ 0.1% Skin sensitizer ≥ 0.1% Respiratory and skin sensitization without division into sub-category. Category 2 carcinogen ≥ 0.1% Reproductive toxicant (Cat. 1A, Cat 1B, Cat.2) and add.cat. for effects on or via lactation ≥ 0.1% STOT SE Cat 1, Cat 2: ≥10% ; Cat 3 ≥20% with expert jurgement STOT RE Cat 1, Cat 2: ≥10%

340 of 1000 characters

Do you intend to adopt any non-GHS classification criteria? E.g. Classification of flammable/combustible liquids beyond 93° Celsius

- ( ) Yes
- (●) No

Will there be a risk assessment element overlayed on top of GHS classification on the label?

- ( ) Yes
- (●) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the Safety Data Sheets (SDS)?

Pictograms

- ( ) Yes
- (●) No

Hazard Statements

- ( ) Yes
- (●) No

Precautionary Statements

- ( ) Yes
- (●) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the label?

Pictograms

◯ Yes

◉ No

Hazard Statements

◯ Yes

◉ No

Precautionary Statements

◯ Yes

◉ No

How is the hierarchy of Pictograms, Hazard Statements and Precautionary Statements defined?

There is no established hierarchy. All of these elements as well as signal word are required to be on a label for chemicals taking into account the precedence rules for their allocation according to the GHS (implemented through GOST 31340-2013). To save space on the label it is recommended to use not more than six precautionary statements if they can fully reflect the nature and the severity of hazards of chemicals (R 50.1.101 – 2014 Guidance on the measures selection of precautionary statements for the labelling in accordance with GOST 31340-2013).

555 of 1000 characters

Do you have any arrangements in place to deal with imported chemicals/products? E.g. Will you accept additional classification criteria (GHS or otherwise) not adopted by your economy?

◉ Yes

◯ No

What are your arrangements to deal with imported chemicals/products?

According to Resolution by the EEC #229 from 28.05.2010, all imported chemicals from section II of list (http://www.tsouz.ru/KTS/KTS17/Pages/P1_299.aspx) must be in compliance with sanitary-epidemiological and hygienic requirements and this compliance must be confirmed by state registration.

292 of 1000 characters

Do you have training and awareness activities planned?

◉ Yes

◯ No

What are your planned training and awareness activities?

Trainings on classification, labelling and Russian SDS creation are provided by CIS Center on regular basis. For more information, please visit website www.ciscenter.org

170 of 1000 characters

Are there any plans to exchange personnel with another economy to improve harmonisation of GHS implementation?

◯ Yes

◉ No

Please list any specific issues of concern you have experienced so far during your GHS implementation efforts

Due implementation we faced with the following concerns:
1) the need to expand the laboratory infrastructure
2) Industry is not ready to comply with the GHS requirements because of absence of data on chemicals for comparison with the GHS criteria
3) the lack of understanding by industry of GHS necessity

306 of 1000 characters

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

What is GHS?

The Globally Harmonised System of Classification and Labelling of Chemicals (GHS) is a system for chemical classification and hazard communication through harmonised provisions for standardised labels and safety data sheets (SDS) developed by United Nations.

Singapore has adopted GHS in 2002, and it is important that GHS forms an integral part of chemical management[#] at the workplace. Chemical manufacturers and suppliers are required to classify and label their products, prepare SDS and make related product information available to their customers or users. Chemical users must obtain the SDS of chemicals used in the workplace, label the chemical containers, and inform personnel of the hazards present and precautions to take.

Almost every industry will be affected by the GHS. The main industries include chemical manufacturing, petrochemicals, electronics, metalworking, paint manufacturing, printing, transport equipment, storage and warehousing. Since 1 Jul 2016, companies were required to adhere to GHS requirements.

Why is GHS important?

GHS enhances the protection of humans and environment against hazardous chemicals as well as to facilitate international trade by ensuring that all chemicals moving into and out of a country are classified, packaged and labelled in accordance with a globally harmonised system.

GHS helps to get every country on the same page for chemical regulations and standards. The harmonisation of chemical classification and labelling across the different countries ensures that there is consistent information and communication of chemical hazards. A harmonised hazard communication system hence helps chemical companies to reduce the cost and time required to comply with multiple regulations, making the international sale and transportation of hazardous chemicals easier. Workplace conditions are also made safer for all chemical users and employees who are exposed to chemical hazards. Information provided on the labels and SDS enables users of hazardous chemicals to identify the hazards and take the necessary preventive or protective measures for their safety and health.

[#] *Labelling and SDS form part of the broader Management of Hazardous Chemicals Programme (MHCP). The GHS hence provides the underlying infrastructure for the establishment of the MHCP. For more information on MHCP, click here.*

Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Singapore

Contents

Overview

OVERVIEW

What is the GHS?

GHS is the abbreviation for Globally Harmonised System of Classification and Labelling of Chemicals. It was developed by the United Nations for chemical hazard communication through standardised:

- Chemical hazard classification
- Chemical product labelling
- Safety data sheets (SDS)

What is the purpose of the GHS?

The purpose of the GHS is to:

- Enhance the protection of humans and the environment against hazardous chemicals
- Facilitate international trading of chemicals

What are your roles in GHS implementation?

Chemical manufacturers and suppliers must classify and label their products, prepare the SDS, and provide information on the products to their customers or users.

Employers and workplace occupiers must obtain the SDS, label the containers and inform their employees about the hazards involved and the precautions to take.

What is GHS Hazard Classification?

Chemicals are classified into different classes or categories based on their:

- Physical properties
- Health effects or toxicity
- Environmental toxicity

The classified chemicals are assigned a fixed set of GHS pictograms.

Physical Hazards

- Oxidiser

- Flammables and others

- Explosives and others

- Gas under pressure

- Corrosive to metals

Health Hazards

- Acute toxicity

- Target organ toxicity and others

- Corrosive to skin and serious eye damage

- Irritant and others

Environmental Hazards

- Environmental toxicity

- Hazardous to the ozone layer

Why is GHS hazard communication important in chemical management?

Hazard communication through labelling, SDS and training is an integral part of chemical management. The GHS hazard communication is the starting point that provides the necessary information for the establishment of a chemical safety programme, which forms part of the safety and health management system.

What is the timeline for GHS Implementation?

Manufacturers/Suppliers	Timeline
Single Substances	
Hazard classes and categories under SS 586:2008 (based on GHS purple book Rev 2)	**Feb 2012**
New hazard classes and categories under SS 586:2014, i.e. Ozone depleting substances, chemically unstable gases, aerosols, sensitisers (based on GHS purple book Rev 4)	**1 Jul 2015**
Mixtures	**1 Jul 2015**

Users	Timeline
Single Substances	
Hazard classes and categories under SS 586:2008 (based on GHS purple book Rev 2)	**End 2012**
New hazard classes and categories under SS 586:2014, i.e. Ozone depleting substances, chemically unstable gases, aerosols, sensitisers (based on GHS purple book Rev 4)	**1 Jul 2015**
Mixtures	**1 Jul 2016**

GHS Classification

GHS CLASSIFICATION

The Globally Harmonised System of Classification and Labelling of Chemicals (GHS) is a chemical hazard communication system between chemical suppliers and chemical users through labelling of containers and provision of safety data sheets (SDS).

GHS classifies chemicals based on their inherent properties or hazards in accordance with certain classification criteria. A fixed set of GHS pictograms, signal words, hazard and precautionary statements is assigned to the classified chemicals for labelling and SDS preparation.

Information provided on the labels and SDS enables users of hazardous chemicals to identify the hazards associated with the chemicals, and to take the necessary precautions to ensure the safe use of the chemicals.

HAZARD CLASSIFICATION

GHS classifies chemicals or mixtures into three main classes viz Physical Hazards, Health Hazards and Environmental Hazards.

Each hazard class is divided into different sub-classes based on the intrinsic hazardous properties of the chemicals. Each hazard sub-class is further classified into different hazard categories depending on the varying degrees or severity of the hazard.

Every hazard category is known as a "building block" in GHS. A lower category number indicates a more hazardous nature of the chemical or mixture and vice versa.

Physical Hazards

There are 16 hazard classes under the Physical Hazards as summarized in Table 1.

Table 1. Physical Hazard Classes

Hazard Class	Hazard Category						
Explosive	Unstable Explosives	Div 1.1	Div 1.2	Div 1.3	Div 1.4	Div 1.5	Div 1.6
Flammable gases (including chemically unstable gases)	Flammable Gas Cat 1	Flammable Gas Cat 2	Chemically unstable Gas Cat A	Chemically unstable Gas Cat B			
Aerosols	Cat 1	Cat 2	Cat 3				
Oxidizing gases	Cat 1						
Gases under pressure	Compressed Gas	Liquefied Gas	Refrigerated Liquefied Gas	Dissolved Gas			
Flammable liquids	Cat 1	Cat 2	Cat 3	Cat 4*			
Flammable solids	Cat 1	Cat 2					
Self-reactive substances and mixtures	Type A	Type B	Type C & D	Type E & F	Type G		
Pyrophoric liquids	Cat 1						
Pyrophoric solids	Cat 1						
Self-heating substances and mixtures	Cat 1	Cat 2					
Substances and mixtures which, in contact with water, emit flammable gases	Cat 1	Cat 2	Cat 3				
Oxidizing liquids	Cat 1	Cat 2	Cat 3				
Oxidizing solids	Cat 1	Cat 2	Cat 3				
Organic peroxides	Type A	Type B	Type C & D	Type E & F	Type G		
Corrosive to metals	Cat 1						

Note: Flammable liquid Category 4 is not adopted in Singapore except diesel

Health Hazards

There are 10 hazard classes under the Health Hazards as shown in Table 2.

Table 2. Health Hazard Classes

Hazard Class	Hazard Category				
Acute toxicity	Cat 1	Cat 2	Cat 3	Cat 4	Cat 5
Skin corrosion/irritation	Cat 1A	Cat 1B	Cat 1C	Cat 2	Cat 3
Serious eye damage/eye irritation	Cat 1	Cat 2A	Cat 2B		
Respiratory or skin sensitisation	Respiratory Cat 1A	Respiratory Cat 1B	Skin Cat 1A	Skin Cat 1B	
Germ cell mutagenicity	Cat 1A	Cat 1B	Cat 2		
Carcinogenicity	Cat 1A	Cat 1B	Cat 2		
Reproductive toxicity	Cat 1A	Cat 1B	Cat 2	Lactation	
Specific target organ toxicity - single exposure	Cat 1	Cat 2	Cat 3		
Specific target organ toxicity - repeated exposure	Cat 1	Cat 2			
Aspiration hazard	Cat 1	Cat 2			

Note: The categories in purple (Acute toxicity Category 5, Skin corrosion/irritation Category 3, Aspiration hazard Category 2) are not adopted in Singapore.

When data is not sufficient for classification into sub-categories for the following hazard classes:

i) Skin corrosion/irritation Categories 1A, 1B and 1C can be combined into Category 1.

ii) Serious eye damage/eye irritation Categories 2A and 2B can be combined into Category 2.

iii) Respiratory/skin sensitisation Categories 1A and 1B can be combined into Category 1.

Environmental Hazards

There are three hazard classes under the Environmental Hazards as indicated in Table 3.

Table 3. Environmental Hazard Classes

Hazard Class	Hazard Category			
Hazardous to the Aquatic Environment				
- Acute toxicity	Cat 1	Cat 2	Cat 3	
- Chronic toxicity	Cat 1	Cat 2	Cat 3	Cat 4
Hazardous to the Ozone Layer	Cat 1			

Note: Acute toxicity Categories 2 and 3, and Chronic Toxicity Categories 3 and 4 are not adopted in Singapore.

DATA FOR CLASSIFICATION

The data used for hazard classification may be obtained from standard literature, field experience and laboratory tests e.g. flash point and boiling point are used for classification of flammable liquids, flammable range for flammable gases, and lethal dose (LD_{50}) for acute toxicity.

Test data that is already generated for chemical classification can be used when classifying chemicals.

SINGLE SUBSTANCE VS MIXTURE

A single substance is a chemical element or its compound in the natural state or obtained by any production process, including any additive necessary to preserve the stability of the product and any impurities deriving from the process used, but excluding any solvent which may be separated without affecting the stability of the substance or changing its composition.

A mixture means a solution composed of two or more substances in which they do not react.

CLASSIFICATION OF MIXTURES

If a reaction occurs during the manufacture of mixtures, and a new product results, the substance must undergo hazard classification based on GHS criteria to determine the hazard of the resultant product.

For physical hazards classification, the GHS physical hazard criteria apply to mixtures which should be tested for the physical hazard parameters.

For health and environmental hazards classification, the GHS approach to the classification of mixtures is dependent upon the amount of information available for the mixture itself and its components. The process for the classification of mixtures is based on the following:

1. Where test data is available for the mixture itself, the classification of the mixture will always be based on that data (refer to GHS Purple Book for exception for carcinogens, mutagens and reproductive toxins).

2. When test data is not available for the mixture itself, but there is sufficient data, on similar tested mixtures or individual hazardous ingredients within the mixture, such data can be used in accordance with the following bridging principles.

a. **Dilution:** If a mixture is diluted with a substance which has an equivalent or lower hazard category classification than the least hazardous original ingredient substance, the new mixture may be classified as equivalent to the original mixture.

b. **Batching:** The hazard category of one production batch of a complex mixture can be assumed to be substantially equivalent to that of another production batch of the same commercial product, produced by or under the control of the same supplier.

c. **Concentration of highly hazardous mixtures:** If a mixture is classified in the highest hazard category, and the concentrations of the ingredients of the mixture that are in that category are increased, the new mixture shall be classified in that category without additional testing.

d. **Interpolation within one toxicity category:** Given three mixtures A, B and C with identical hazardous ingredients: If mixtures A and B are in the same hazard category and mixture C has the same active hazardous ingredients with concentrations intermediate to the concentrations of those hazardous ingredients in mixtures A and B, then mixture C is assumed to be in the same hazard category as A and B.

e. **Substantially similar mixtures:** Given the following:

   (a) Two mixtures each containing two ingredients:

      (i) A + B

      (ii) C + B;

   (b) The concentration of ingredient B is essentially the same in both mixtures;

   (c) The concentration of ingredient A in mixture (i) equals that of ingredient C in mixture (ii);

   (d) Hazard data for A and C is available and substantially equivalent, i.e. they are in the same hazard category and are not expected to affect the classification of B.

   If mixture (i) is already classified in a particular hazard class based on test data, mixture (ii) shall be assigned the same hazard category.

f. Aerosols: An aerosol form of mixture shall be classified in the same hazard category as the tested non-aerosolised form of the mixture, provided that the added propellant does not affect the hazardous properties of the mixture upon spraying. Classification of aerosolized mixtures for inhalation toxicity should be considered separately.

3. Classification of mixtures based on ingredients of the mixture

- **Physical Hazard**

  As a principle, it will be classified in accordance with the same criteria as those used for substances, using test data available for the complete mixture.

- **Health Hazard**

  Acute toxicity: Classification of mixtures based on available **Acute Toxicity Estimate (ATE) values** for all relevant ingredients for ingredients of the mixture and using the ***additivity formula:*** Concentration and ATE value of component.

  Other hazard classes: Classification of mixtures based on **cut-off values** for all relevant ingredients for ingredients of the mixture.

- **Environmental Hazard**

  Classification of mixtures when data is available for all ingredients or only for some ingredients of the mixture is done via:

  (1) ***Additivity formula:*** Concentration and LC_{50} or EC_{50} of ingredients, or

  (2) ***Summation of classified ingredients:*** Concentration of ingredients and Multiplying factor (**M**) for highly toxic ingredients.

For detailed information on the classification process such as formula and methods, please refer to the UN GHS document or the Guidebook on GHS Classification and Labelling of Chemicals for further guidance.

When to classify the chemicals?

When concentration of chemicals meets the cut-off value of hazard classes, they will require classification. The following tables summarize the cut-off values for respective hazard classes.

Table 4. Generic cut-off concentration for some hazard classes

Hazard Class	Generic cut-off value to be taken into account
Acute toxicity	
Category 1-3	0.1%
Category 4	1%
Skin Corrosion/Irritation	1% (NOTE)
Serious eye damage/eye irritation	1% (NOTE)
Hazardous to aquatic environment	
Acute/Chronic Category 1	1% (NOTE)

NOTE: Or <1% where relevant, based on available data that the presence of the ingredient at a lower concentration is still relevant for classification.

Table 5. Concentration cut-off for classification of mixtures containing respiratory and skin sensitisers

Ingredient classification	Generic concentration limits triggering classification of a mixture as		
	Respiratory sensitisation		Skin sensitisation
	Solid/liquid	Gas	All physical states
Skin sensitisation Category 1	-	-	≥ 1.0% (NOTE)
Skin sensitisation Sub-Category 1A	-	-	≥ 0.1%
Skin sensitisation Sub-Category 1B	-	-	≥ 1.0% (NOTE)
Respiratory sensitisation Category 1	≥ 1.0% (NOTE)	≥ 0.2% (NOTE)	-
Respiratory sensitisation Sub-Category 1A	≥ 0.1%	≥ 0.1%	-
Respiratory sensitisation Sub-Category 1B	≥ 1.0% (NOTE)	≥ 0.2% (NOTE)	-

NOTE: A SDS will still be required if the ingredient is present in the mixture at a concentration of ≥ 0.1%.

Table 6. Classification of mixtures containing carcinogens

Ingredient classification	Generic concentration limits triggering classification of a mixture as	
	Category 1 carcinogen	Category 2 carcinogen
Category 1 carcinogen	≥ 0.1%	-
Category 2 carcinogen	-	≥ 1.0% (NOTE)

NOTE: A SDS will still be required if the ingredient is present in the mixture at a concentration of ≥ 0.1%.

Table 7. Classification of mixtures containing reproductive toxicants

Ingredient classification	Generic concentration limits triggering classification of a mixture as		
	Category 1 reproductive toxicant	Category 2 reproductive toxicant	Additional category for effects on or via lactation
Category 1 reproductive toxicant	≥ 0.3% (NOTE)	-	-
Category 2 reproductive toxicant	-	≥ 3.0% (NOTE)	-
Additional category for effects on or via lactation	-	-	≥ 0.3% (NOTE)

NOTE: A SDS will still be required if the ingredient is present in the mixture at a concentration of ≥ 0.1%.

Table 8. Classification of mixtures containing specific target organ toxicants (single exposure)

Ingredient classification	Generic concentration limits triggering classification of a mixture as		
	Category 1 specific target organ toxicant	Category 2 specific target organ toxicant	Category 3 specific target organ toxicant
Category 1 specific target organ toxicant	≥ 10% (NOTE 1)	1.0% ≤ concentration < 10%	-
Category 2 specific target organ toxicant	-	≥ 10% (NOTE 1)	-
Category 3 specific target organ toxicant	-	-	≥ 20% (NOTE 2)

NOTE 1: A SDS will still be required if the ingredient is present in the mixture at a concentration of ≥ 1.0%.

NOTE 2: It shall be recognised that this concentration limit may be higher or lower depending on the Category 3 ingredient(s) and that some effects such as respiratory tract irritation may not occur below a certain concentration while other effects may occur below this 20% value. Expert judgement should be exercised.

Table 9. Classification of mixtures containing specific target organ toxicants (repeated exposure)

Ingredient classification	Generic concentration limits triggering classification of a mixture as	
	Category 1 specific target organ toxicant	Category 2 specific target organ toxicant
Category 1 specific target organ toxicant	≥ 10% (NOTE)	1.0% ≤ Concentration < 10%
Category 2 specific target organ toxicant		≥ 10% (NOTE)

NOTE: A SDS will still be required if the ingredient is present in the mixture at a concentration of ≥ 1.0%.

Safety Data Sheet

What are GHS Safety Data Sheets (SDS)?

These SDS are in a standardised format with information about the physical properties of the chemicals, their health effects, and safety measures on handling, storing, transporting and disposal of the chemicals, as well as first aid and emergency responses.

Why need GHS SDS?

GHS SDS is a universal hazard communication tool, which helps to ensure the safe use of hazardous chemicals by enabling users to:

- Identify the hazards of the chemical
- Assess the risk involved in handling the chemical
- Take the precautionary measures to eliminate or minimize the risk

The information and data in the SDS are essential for establishing a comprehensive chemical safety programme covering all stages in the life cycle of the chemicals.

Review and update of SDS

The chemical manufacturers or suppliers of SDS should review the information periodically (not longer than 5 years from the last date of issue of the SDS, revise and update within 6 months after the review) and if necessary reissue the SDS taking the following into consideration:

- When there is a change in formulation that changes the properties of the substance, the form or physical appearance or the way of application of the substance
- When there is a change to the substance/mixture that changes the health, safety or environmental hazard nature
- When there is available new health, safety or environmental information such as occupational exposure levels of the substance/mixture
- When there are new (or revised) regulations, standards, codes of practices or guidelines

When there is a change in company's information, contact number and emergency response number, the chemical manufacturer or supplier of SDS should inform the employer or workplace occupier accordingly.

Which chemicals require GHS SDS?

SDS must be prepared for every chemical substance or product that has been classified as hazardous under the GHS e.g. toxic, flammable, oxidising, pyrophoric, explosive, self-reactive, corrosive, irritant, sensitising, narcotic, mutagenic, carcinogenic, reproductive, specific target organ toxicity, and environmental toxicity.

The information for classification can be obtained from laboratory tests, published data and literature, and field experience.

The concentration cut-off in which an SDS is required is summarized in Table 10.

Table 10. Concentration Cut-off for SDS

Hazard Class	Cut-off value / Concentration Limit
Acute toxicity, Category 1-3	≥ 0.1%
Acute toxicity, Category 4	≥ 1.0%
Skin corrosion/irritation	≥ 1.0%
Serious eye damage/irritation	≥ 1.0%
Respiratory sensitisation	≥ 0.1%
Skin sensitisation	≥ 0.1%
Germ cell mutagenicity category 1	≥ 0.1%
Germ cell mutagenicity category 2	≥ 1.0%
Carcinogenicity	≥ 0.1%
Reproductive toxicity	≥ 0.1%
Specific target organ toxicity (single exposure)	≥ 1.0%
Specific target organ toxicity (repeated exposure)	≥ 1.0%
Aspiration hazard, category 1	≥ 10%
Hazardous to the aquatic environment	≥ 1.0%
Hazardous to ozone layer	≥ 0.1%

How does SDS serve as a hazard communication tool?

SDS provides a communication link between chemical manufacturers/ suppliers and workplace occupiers/employers who purchase the chemicals, and between employers and employees who use or handle the chemicals.

Under the Workplace Safety and Health (WSH) Act, it is the duty of employers to ensure that persons at work have adequate instruction, information, training and supervision to perform their work. SDS can be used to facilitate training of persons at work.

What are your obligations / statutory duties?

Chemical manufacturers and suppliers

- Provide GHS SDS with accurate and sufficient information in the GHS format for their products.
- Ensure that the following information is available to any person to whom the product is supplied for use at work: the health hazards associated with the product, the precautions to be taken, and the results of any tests that are relevant to its safe use.

Workplace occupiers / employers

- Obtain GHS SDS and assess the information in the SDS.
- Make the SDS available to persons who are liable to be exposed to the chemical.
- Conduct a risk assessment for work involving chemicals and develop safe work procedures.
- Take precautionary measures to ensure the safe use of the chemical.

Employees

- Know the hazards of the chemicals e.g. understand the pictograms.
- Follow the safe work procedures.
- Use personal protective equipment (PPE) as required.

Emergency response team

- Use correct mitigation to manage chemical incidents.

What are the exceptions?

- There is no exemption for chemical substances or mixtures from GHS except for chemicals that have been classified as non-hazardous by GHS hazard classification criteria and do not contain any hazardous ingredients above the SDS cut-off limits (in SS586 on Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods).
- Pharmaceuticals, food additives, cosmetics and pesticide residues in food will not be subject to GHS in terms of labelling at the point of intentional intake. However, these products will not be covered in terms of labelling at the point of intentional intake. However, they will be covered where workers are exposed in the workplace and in transport.
- Hazardous substances that are in a consumer package and that are intended for retail sale, are exempted from SDS requirements under the WSH (General Provisions) Regulations.
- The term consumer package means a container that is intended for retail display and sale to households or offices, and includes a container that is transported or distributed as part of a larger consolidated container that consists of a number of identical consumer packages. The term container means anything in or by which substances are or have been wholly or partly encased, covered or packed.
- For more information on the WSH (General Provisions) Regulations, please refer to the MOM website at http://www.mom.gov.sg.

What is the key information that users should obtain from the SDS?

The identity of the chemical, the hazards associated with the chemical and the precautions to take when handling the chemical. These are the key information items to look out for. It is important to request for an updated SDS from the manufacturer/supplier/seller.

Identification

- What is the name or the identity of the chemical?

Hazard identification

- Can the chemical burn or explode when ignited?
- Is the chemical stable? If no, what are the conditions to avoid?
- Can the chemical react with other chemicals? If yes, which chemicals?
- Is the chemical harmful? If so, what harm can it cause?
- Do you know the symptoms that may warn you of overexposure?

Preventive measures

- Does the chemical require special handling & storage?
- What type of personal protective equipment should you use when you are handling the chemical?

Emergency measures

- Do you know what to do in the event of a fire or explosion?
- Do you know the fire extinguishing method for the chemical?
- Do you know what to do in the event of a leak or spill?
- Do you know the first-aid to be administered to the victims?

What must GHS SDS contain?

GHS SDS must contain 16 information items in the following sequence:

1. *Identification*
   - product identifier
   - recommended use of chemical and restrictions
   - supplier's details
   - emergency phone number

2. *Hazards identification*
   - GHS classification of substance/mixture
   - GHS label elements, all precautionary statements and all hazard information/ statements

3. *Composition / information on ingredients*
   - chemical identity, CAS number
   - concentrations of all ingredients, impurities and stabilizing additives

4. *First aid measures*
   - description of acute and delayed symptoms / effects
   - indication of medical attention and special treatment needed, if necessary

5. *Fire fighting measures*
   - suitable extinguishing media, special protective actions for fire-fighters
   - special hazards arising from the chemical

6. *Accidental release measures*
   - personal precautions, protective equipment, emergency procedures
   - environmental precautions
   - methods and materials for containment and cleaning up

7. *Handling and storage*
   - precautions for safe handling
   - conditions for safe storage, including any incompatibilities

8. *Exposure controls / personal protection*
   - occupational exposure or biological limit values
   - appropriate engineering controls
   - individual protection measure

9. *Physical and chemical properties*
   - appearance, odour, odour threshold and pH
   - flash point and evaporation rate
   - initial boiling point and boiling range
   - upper/lower flammability or explosive limits
   - melting point/ freezing point
   - vapour pressure, density and relative density
   - partition coefficient: n-octanol/water
   - auto-ignition and decomposition temperature
   - flammability, solubility and viscosity

10. *Stability and reactivity*
    - reactivity and chemical stability
    - possibility of hazardous reactions
    - conditions to avoid, incompatible materials and hazardous decomposition products

11. *Toxicological information*
    - description of the various delayed, immediate and chronic toxicological (health) effects through short or long term exposure via inhalation, ingestion, skin and eye contact
    - symptoms related to physical, chemical and toxicological characteristics

12. *Ecological information*
    - eco-toxicity
    - persistence and degradability
    - bio-accumulative potential
    - mobility in soil

13. *Disposal considerations*
    - description of waste residues and information on their safe handling and methods of disposal

14. *Transport information*
    - UN number and UN proper shipping name
    - transport hazard classes and packing group, transport in bulk
    - marine pollutant
    - transport in bulk
    - special precautions a user should take in transporting substance

15. *Regulatory information*
    - safety, health and environmental regulations specific for the product in question

16. *Other information*
    - other information that may be of importance to safety and health

GHS Label

GHS Label

The objective of labelling of product packages and workplace chemical containers containing hazardous chemicals is to enable users to know the identities of the chemicals they handle, the hazards involved and the precautionary measures to take.

Legal Requirements on Product Package and Workplace Chemical Container Labels

Regulation 42 (Warning Labels) of the Workplace Safety and Health (General Provisions) Regulations stipulates that it shall be the duty of the occupier of a workplace in which there is any container of hazardous substances to ensure that, as far as reasonably practicable, every such container is affixed with one or more labels that are in accordance with:

(1) any Singapore Standard relating to the classification and labelling of hazardous substances; or

(2) such other standards, codes of practice or guidance relating to the classification and labelling of hazardous substances as issued or approved by the WSH Council.

Singapore Standard SS 586 Specification for Hazard Communication for Hazardous Chemicals and Dangerous Goods is an Approved Code of Practice that adopts the United Nations Globally Harmonised System of Classification and Labelling of Chemicals.

Regulation 44 exempts any hazardous substance that is in a consumer package and that is intended for retail sale, from labelling and SDS requirements.

Exemptions

- There is no exemption for chemical substances or mixtures from GHS except for chemicals that have been classified as non-hazardous by GHS hazard classification criteria and do not contain any hazardous ingredients above the SDS cut-off limits specified in SS 586.
- Pharmaceuticals, food additives, cosmetics and pesticide residues in food will not be subject to GHS in terms of labelling at the point of intentional intake. However, these products will not be covered in terms of labelling at the point of intentional intake but will be covered where workers are exposed in the workplace and in transport.

Information on a GHS Label for Product Package/Containers

There are seven information items required in a GHS label.

1. Product Identifier
2. Pictogram
3. Signal word
4. Hazard statement
5. Precautionary statement
6. Supplementary information
7. Supplier information

Understanding the information on a label enables users to handle the hazardous chemical safely.

What does the information mean?

1. PRODUCT IDENTIFIER

A product identifier is the name of the product in accordance with IUPAC, CAS or technical names listed on the SDS for the product. It provides a unique means by which a user can identify the product in a particular use setting e.g. transport or workplace.

Where a substance or mixture is covered under the UNRTDG, the UN Proper Shipping Name should also be used.

2. PICTOGRAM

A pictogram conveys the hazardous properties and hazard severity of a chemical. There are nine GHS pictograms assigned to different classes and categories of chemical hazards (Table 11). Every product should be properly classified and assigned appropriate pictogram(s).

Table 11. GHS pictograms and hazard classes

Pictograms and Hazard Classes		
 Oxidiser	 • Flammables • Aerosols • Self-reactive • Pyrophoric • Self-heating • Emits flammable gas	 • Explosive • Self-reactive • Organic peroxide
 Acute toxicity (severe)	 Corrosive	 Gases under pressure
 • Carcinogen • Respiratory sensitiser • Reproductive toxicity • Target organ toxicity • Mutagenicity • Aspiration toxicity	 Environmental toxicity	 • Irritant • Skin sensitiser • Acute toxicity • Narcotic effects • Respiratory tract irritation • Hazardous to the ozone layer

3. SIGNAL WORDS

These words are used to indicate the relative hazard severity and alert the reader to a potential hazard. There are 2 signal words used on a GHS label - "Danger" is for a more severe hazard while "Warning" is for a less severe hazard.

4. HAZARD STATEMENTS

These are phrases assigned to a hazard class and category to describe the nature and degree of the hazards of the product. All hazard statements should be included on the label for substance/ mixture possessing more than one hazard.

5. PRECAUTIONARY STATEMENTS

These are phrases / precautionary pictograms which describe recommended measures that should be taken to minimise or prevent adverse effects resulting from exposure to a hazardous product, or improper storage or handling of a hazardous product. The number of precautionary statements should be kept to a maximum of six.

6. SUPPLEMENTARY INFORMATION

The supplementary information on the label of a product is provided by the manufacturer or supplier at its discretion. Example:

- For further information on this product, see Safety Data Sheet.

Such information should not lead to variation or undermine the GHS hazard information.

7. SUPPLIER INFORMATION

This is the name, address and telephone number of the manufacturer or supplier of the product.

Review / Update of Label

The labels are to be updated within six months whenever there is any new information received on the label information items.

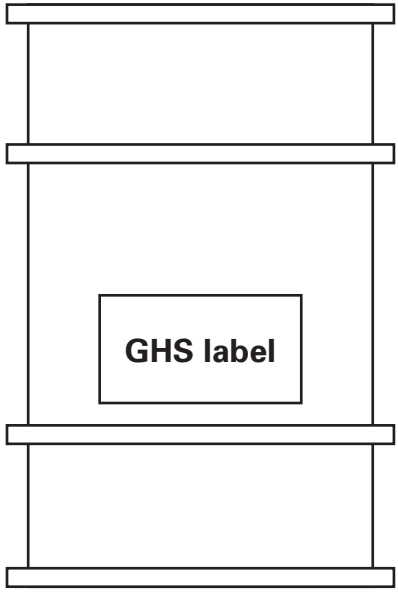
Information on the label is to be reviewed by manufacturer or supplier every five years.

Labelling of Product Packages and Workplace Chemical Containers - the GHS Label

Original product packages/workplace chemical containers/warning label provided by manufacturers or suppliers would have the GHS labels on them. The dimensions of label are shown in Table 12.

Table 12. Dimensions of label

Capacity of container	Dimensions (in millimetres)
125ml – 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



Example of GHS container label

Product name ← **Isopropyl Alcohol**

Signal word ← ***DANGER***

Pictograms →

Hazard Statements ←

Highly flammable liquid and vapour
Causes serious eye irritation
May cause drowsiness or dizziness
May be harmful if swallowed and enters airways
May cause respiratory irritation

Precautionary Statements ←

- Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- Take precautionary measures against static discharge.
- Use only outdoors or in well-ventilated area.
- Avoid breathing dust/fume/gas/mist/vapours/ spray.
- Wear protective gloves/ protective clothing/ eye protection/ face protection.
- IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing Rinse skin with water/shower.

Supplementary Information ←

Empty uncleaned drums can still be dangerous, keep labelled until decontaminated, then remove or deface the label.
For further information on this product, refer to Safety Data Sheet.

Supplier Information ←

United Nations Chemical Company Ltd.
1-1, Peace Avenue
Jurong Island Annex A,
Singapore 123456.

Contact number: 65 6000 0000
Emergency contact number: 65 6123 4567

Disclaimer: Label is produced not to scale and with available known data at the point of print.

Reduced Workplace Labelling

Where a full GHS label is not practicable, a reduced workplace label shall be provided. Reduced workplace labels are labels which indicate only:

- Product identifier
- GHS pictogram(s)

Before implementing reduced workplace labelling in the workplace, persons who are handling hazardous chemicals must be trained and able to interpret label and understand the hazards and precautionary measures to take.

The conditions under which reduced workplace labelling can be used are:

1. Hazardous chemicals in containers ≤125ml
2. Hazardous chemicals that are decanted, transferred or dispensed to secondary containers
3. Hazardous chemicals which are not supplied to another workplace
4. Hazardous chemicals used in laboratories
5. Hazardous chemicals to be sent for research and analysis

Figure 1. Example of reduced workplace label

Figure 2. Reduced workplace label on bottle

HAZARD COMMUNICATION

Hazard Communication Training

Persons at work who are required to handle hazardous chemicals shall be trained and supervised as is necessary for the persons to perform their work. Persons at work who are liable to be exposed to hazardous chemicals shall be informed or instructed of the hazards involved and the precautionary measures to be taken.

Hazard communication training should cover:

- Hazardous chemicals in the workplace and their hazards
- Control or preventive measures and safe work procedures to minimise the hazards
- Procedures to follow if they are exposed to the hazards
- Emergency response procedures
- Reading and interpreting labels and SDS

Please refer to SS586: 2014 Part 2 Section 8 for more details on hazard communication programme.

RESOURCES

More Guidance Materials on GHS

1. Singapore Standard SS 586:2014 on Specification on Hazard Communication for Hazardous Chemicals and Dangerous Goods. Details on purchasing can be found at http://www.singaporestandardseshop.sg/Product/Home.aspx

2. Guidebook on GHS of Classification and Labelling of Chemicals (by SCIC). Details on purchasing can be found at http://www.scic.sg/

3. Workplace Safety and Health Act (WSHA) and its related legislation can be downloaded from http://www.mom.gov.sg/legislation/occupational-safety-health/Pages/default.aspx

4. United Nation's GHS document and it can be downloaded from http://www.unece.org/trans/danger/publi/ghs/ghs_welcome_e.html

5. For latest information on implementation of GHS in Singapore, please refer to the GHS website. https://www.wshc.sg/ghs

Acknowledgement

This booklet was prepared by the National GHS Task Force (formed under the custody of the Ministry of Manpower) to coordinate the implementation of GHS in Singapore. The Task Force comprising representatives from AVA, CAAS, HSA, MOM, MPA, MTI, NEA, SCDF, SCIC, SISO, SPF and WSHC.

The Task Force would like to thank the Singapore Chemical Industry Council Limited for allowing it to reproduce information from its Guidebook on GHS of Classification and Labelling of Chemicals.

Disclaimer
The GHS Task Force does not accept any responsibility for any errors or omissions. It is believed to be factual at time of print, with the available information and is for guidance only.

2014 Revision 4

Management of Hazardous Chemicals Programme

Chemicals in Workplaces

> Chemicals are used extensively in workplaces. Many products such as paint, plastics, adhesives, detergents, and pharmaceuticals are derived from chemicals, some of which could potentially be harmful. However, for many toxic chemicals, the health effects may take a long period of time to develop.

Hazardous chemicals in the workplace can be grouped into three broad categories:

- physical hazards (e.g., flammable, explosive, and reactive);
- health hazards (e.g., toxic, corrosive, narcotic, irritating and carcinogenic); and
- environmental hazards (e.g., aquatic toxicity and ozone depleting).

In Singapore, the more hazardous chemicals are regulated or licensed by relevant authorities. For example, the National Environment Agency (NEA) has licensing control over 121 hazardous substances, the Singapore Civil Defence Force (SCDF) regulates petroleum and flammable substances, and the Singapore Police Force regulates the explosive precursors.

The Ministry of Manpower (MOM) administers the WSH Act and its subsidiary regulations relating to the safety, health and welfare of the general workforce.

The WSH (General Provisions) Regulations have a number of provisions for protecting workers and employed persons against hazardous chemicals. These include container labelling and safety data sheets, prevention and control of airborne contaminants, regular workplace monitoring, and hiring competent persons to take charge of hazardous chemicals. The WSH (Medical Examinations) Regulations require compulsory medical examinations for workers exposed to 17 prescribed toxic chemicals.

Please see the hazardous substances listed under the WSH Act 5th schedule. The exposure to chemicals at work may result in occupational disease over time. Please refer to occupational disease statistics. Chemical contact or exposure can also lead to fatalities at workplace. Hence, it's imperative for workplaces using hazardous chemicals to implement a comprehensive and effective programme for early risk detection and intervention.

Management of Hazardous Chemicals Programme

The Management of Hazardous Chemicals Programme (MHCP) is initiated under the Workplace Health Strategy to improve chemical management at workplaces, to prevent or control chemical hazards, and to protect persons at work against such hazards. Its objective is to prevent occupational diseases, injuries and fatalities from hazardous chemicals.

Find out more about managing hazardous chemicals in your workplace:

Management of Hazardous Chemicals Programme

Singapore Competent Authorities on Chemical Management

There are several agencies that regulate hazardous chemicals with specific inherent properties and at different stages of their life cycle. 1. MOM regulates exposure to chemicals at workplaces. For more information on MOM legislation, please click here.

NEA regulates hazardous substances that are highly toxic and/or generate toxic waste. For more information about the Hazardous Substances Control programme in NEA, please click here.

SCDF regulates the storing and transportation of flammable materials including petroleum. For more information about the Fire Safety Licensing and Enforcement, please click here.

SPF regulates the manufacture and storage of explosive precursors. To view the list of regulated chemical precursors and requirements to hold a license to deal with these chemicals, please click here.

Formation of Chemical Management & GHS Hazard Communication Taskforce

WSHC (Chemical Management & GHS Hazard Communication) Taskforce was formed in July 2015 to drive the adoption of MHCP and GHS through capability building, standard setting, promotion and engagement. The terms of reference are:

(i) Drive the adoption of GHS developed by the United Nations and propose to the relevant competent authorities the application & implication.

(ii) Develop strategies & action plan(s), & to ensure effective implementation of GHS for hazard communication through capability building, engagement, promotional activities & compliance assistance

(iii) Identify gaps & propose strategies on chemical management for the storage, usage, handling, transportation & disposal of the chemicals safely

Please click HERE for the composition of WSHC (Chemical Management & GHS Hazard Communication) Taskforce.

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **2LNSJVFS**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **05 Jan 2018 2:34:28 PM**

Receipt Number: **global-harmonization-64**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Singapore

How are you responding *

- [ ] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [x] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Ministry of Manpower

Name

Er. Veronica Chow

Phone number

65-66925105

Email address

veronica_chow@mom.gov.sg

Have you completed a GHS implementation status report in previous years? *

(●) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(●) Yes

( ) No

Industry Input - IWCS

Industrial Workplace Chemicals Sector

This section is for any industry associates who may wish to comment regarding the GHS implementation process.

Has it been easy to access all necessary information regarding GHS compliance?

The information related to GHS implementation in Singapore is posted on the web page of Workplace Safety & Health Council, the web Link: www.wshc.sg/ghs

152 of 1000 characters

Are there specific issues that are limiting the progress of GHS implementation?

The issues are as follow:
- GHS reference document (UN Purple Book) version changes once in two years and for countries to review and adapt to the new revision requires time and resources.
- The Building Block Approach (BBA) allows flexibility for country to adopt and access the adaption and it can cause additional work related to import/export labelling to meet the country requirement.
- Imported chemicals

412 of 1000 characters

What are/were the expected costs for industry in the GHS implementation?

- Initial transition cost to convert from the old to the new GHS system of classification, labelling, SDS and hazard communication.
- Training of employees and contractors.
- Cost incurred due to the generation of GHS SDS/ label and re-classification of products.

263 of 1000 characters

If your economy has implemented GHS, is there any difference in expected cost prior to implementation and actual cost post-implementation of GHS?

GHS Implementation added to the overall cost but it has also been beneficial in terms of hazard communication having a uniform hazard end-point.

144 of 1000 characters

What are/were the expected benefits for industry through the GHS implementation?

- Reduce cost of creating a multiple format of label and SDS that met more than one country needs and also fulfil international trade requirement.
- Improved quality and consistency of hazard communication information to the stakeholders

237 of 1000 characters

If your economy has implemented GHS, is there a difference in expected benefits prior to implementation and actual benefits post-implementation of GHS?

0 of 1000 characters

Organisation/Agency

Ministry of Manpower

Name

Er. Veronica Chow

Phone number

65-66925105

Email address

veronica_chow@mom.gov.sg

Do you have more information to supply that did not fit into the fields above?

◯ Yes

◉ No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **65Y3XMWT**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **05 Jan 2018 3:08:50 PM**

Receipt Number: **global-harmonization-69**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Singapore

How are you responding *

- [ ] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Ministry of Manpower

Name

Veronica Chow

Phone number

65-66925105

Email address

veronica_chow@mom.gov.sg

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2017

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

(•) Yes

( ) No

Please provide the following details

Lead Government Agency

Ministry of Manpower

Contact Person

Veronica Chow

Phone number

65-66925105

Email address

veronica_chow@mom.gov.sg

Website

www.mom.gov.sg

Has GHS been implemented for this sector? *

(●) Yes

( ) No

Which edition of GHS is/was implemented?

Revised Edition 4 (2011)

When is/was GHS fully operational for this sector?

At the national level, a phase approach was adopted with a 5 year transition period that ended on July 2016.

108 of 1000 characters

Have you finalised the relevant legislation to implement GHS?

(●) Yes

( ) No

Please provide the access details to the documentation. E.g. Website link, contact phone number

www.mom.gov.sg . Workplace Safety and Health (General Provisions) Regulations

Do you intend to adopt all GHS hazard classification building blocks as written in the Purple Book?

( ) Yes

(●) No

Please describe the building blocks that will be adopted

Physical, Health and Environmental blocks are adopted, some of the lower category are dropped. Please refer to the Singapore GHS website at WWW.WSHC.SG/GHS

156 of 1000 characters

Do you intend to adopt any non-GHS classification criteria? E.g. Classification of flammable/combustible liquids beyond 93° Celsius

( ) Yes

(●) No

Will there be a risk assessment element overlayed on top of GHS classification on the label?

( ) Yes

(●) No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the Safety Data Sheets (SDS)?

Pictograms

◯ Yes

◉ No

Hazard Statements

◯ Yes

◉ No

Precautionary Statements

◯ Yes

◯ No

Is there a maximum number of Pictograms, Hazard Statements and Precautionary Statements included on the label?

Pictograms

◯ Yes

◯ No

Hazard Statements

◯ Yes

◯ No

Precautionary Statements

◉ Yes

◯ No

How many?

6

How is the hierarchy of Pictograms, Hazard Statements and Precautionary Statements defined?

The information presented should not contradict or duplicated.

62 of 1000 characters

Do you have any arrangements in place to deal with imported chemicals/products? E.g. Will you accept additional classification criteria (GHS or otherwise) not adopted by your economy?

◉ Yes

◯ No

What are your arrangements to deal with imported chemicals/products?

The additional information should not compromised the results of classification and the BBA adopted.

100 of 1000 characters

Do you have training and awareness activities planned?

(•) Yes

( ) No

What are your planned training and awareness activities?

- Awareness seminars
- Training courses

40 of 1000 characters

Are there any plans to exchange personnel with another economy to improve harmonisation of GHS implementation?

( ) Yes

(•) No

Please list any specific issues of concern you have experienced so far during your GHS implementation efforts

- The revision changes of the GHS document, which requires resources to affect the changes.
- The document allows for certain decision to be made or adoption of building blocks which may create dis-harmonization for each country
- The Imported chemicals

254 of 1000 characters

Do you have more information to supply that did not fit into the fields above?

( ) Yes

(•) No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **ZT4VD5WR**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **11 Jan 2018 4:02:39 AM**

Receipt Number: **global-harmonization-77**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

United States

How are you responding *

- [ ] General Information
- [x] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

US Occupational Safety and Health Administration

Name

Maureen Ruskin

Phone number

202-693-1955

Email address

Ruskin.maureen@dol.gov

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2016

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

( ) Yes

(•) No

Regulator Input - IWCS

Industrial Workplace Chemicals Sector

Does your agency or organisation have responsibility for GHS implementation for this sector? *

( ) Yes

( ) No

Global Harmonization System (GHS) for Chemical Labelling SmartForm

Asia-Pacific Economic Cooperation

Tracking Code: **TQJVMX2C**

Your form has been successfully submitted. Please keep a copy of this acknowledgement for your records.

global-h

Date and Time: **03 Jan 2018 1:58:36 PM**

Receipt Number: **global-harmonization-62**

To save or print a copy of the completed form and acknowledgement go to the "File" menu and select "Save as" or "Print".

Introduction

Responding for

Please select your economy *

Vietnam

How are you responding *

- [x] General Information
- [ ] As a Regulator for the Industrial Workplace Chemicals Sector
- [ ] As a Regulator for the Consumer Products Sector
- [ ] As a Regulator for the Agricultural Chemicals Sectior
- [ ] From Industry for the Industrial Workplace Chemicals Sector
- [ ] From Industry for the Consumer Products Sector
- [ ] From Industry for the Agricultural Chemicals Sector

Respondent details

Organisation/Agency

Vietnam Chemicals Agency

Name

NGUYEN THI HA

Phone number

+84 22205136

Email address

hanth@moit.gov.vn

Have you completed a GHS implementation status report in previous years? *

(•) Yes ( ) No

Please provide the year when the last report was completed *

2016

Has there been any changes to the GHS implementation status in your economy since completing the last GHS implementation Status report? *

(•) Yes

( ) No

General Information

General Information

Has your economy implemented GHS for any chemical sector to date?

( ) Yes

(•) No

Does your economy plan to implement GHS for any chemical sector in the next two years? *

( ) Yes

(•) No

Do you have a hazard classification database?

( ) Yes

(•) No