GHS Updates Around the Globe

Darlene Susa-Anderson SCHC Annual Meeting 2021





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The Americas

Focus of presentation

New: GHS Implementation

• Israel, South Africa

In Process: Revision to Existing GHS Implementation

 Australia, Chile, Colombia, Japan, European Union, New Zealand

Proposed: Revision to Existing GHS Implementation

• Canada, United States



Canada

On Dec. 19, 2020, Health Canada issued a proposed rulemaking to update the Hazardous Products Regulation (HPR) to revision 7 of GHS.

This move furthers the goals of the joint Regulatory Cooperation Council (RCC) and is part of the Health Canada 2019-2021 Forward Regulatory Plan.

The deadline for comments was originally Feb. 27, 2021 but was extended to May 19, 2021.

When finalized, a two-year transition period is expected.



Key points – physical hazards

Flammable Gases hazard class:

- Subdivision of Category 1 (extremely flammable gases) into two subcategories:
 - Subcategory 1A includes pyrophoric gases and chemically unstable gases
 - Subcategory 1B includes flammable non-pyrophoric gases and chemically stable gases
- Addition of definitions for "chemically unstable gas" and "pyrophoric gas"
- Repealing provisions in Part 3, Labelling, that would no longer apply

Flammable Aerosols hazard class:

- Name change to "Aerosols"
- Addition of Category 3 for non-flammable aerosols
- Removal of "flammable aerosol" definition
- Addition/deletion of provisions regarding labelling and classification, the most significant of which is a new provision indicating that products in the Aerosols hazard class need not be classified in any category of the Gases Under Pressure hazard class

Oxidizing Solids hazard class:

- Addition of new test procedure
- Expansion of classification criteria



Flammable gases

flammable gas

statement

	Table 2.2.2: Label elements for flammab	ne gases
	Category 1	Category 2
Symbol	Flame	No symbol
Signal word	Danger	Warning
Hazard statement	Extremely flammable gas	Flammable gas

First Edition through Revision 3

	Flammable gas		Chemically unstable gas		
	Category 1	Category 2	Category A	Category B	
Symbol	Flame	No symbol	No additional symbol	No additional symbol	
Signal word	Danger	Warning	No additional signal word	No additional signal word	
Hazard	Extremely	Flammable gas	May react explosively	May react explosively	

even in the absence of air

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

Revisions 4 and 5

Source: Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

even in the absence of air

at elevated pressure and/or temperature



Flammable gases

		Table 2.2.4: Lal	bel elements for flar	nmable gases	
	Flammable gas Additional sub-categories				
			Pyrophoric gas Chemically unstable gas		
	Category 1	Category 2	Pyrophoric gas	Category A	Category B
Symbol	Flame	No symbol	Flame	No additional symbol	No additional symbol
Signal word	Danger	Warning	Danger	No additional signal word	No additional signal word
Hazard statement	Extremely flammable gas	Flammable gas	May ignite spontaneously if exposed to air	May react explosively even in the absence of air	May react explosively even in the absence of air at elevated pressure and/or temperature

Revision 6

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

Revisions 7 and 8



Flammable aerosols

Table 2.3.1: Label elements for flammable aerosols				
	Category 1	Category 2		
Symbol	Flame	Flame		
Signal word	Danger	Warning		
Hazard statement	Extremely flammable aerosol	Flammable aerosol		

First Edition through Revision 3



Flammable aerosols to Aerosols

Table 2.3.1: Label elements for flammable aerosols				
Category 1 Category 2				
Symbol	Flame	Flame		
Signal word	Danger	Warning		
Hazard statement	Extremely flammable aerosol	Flammable aerosol		

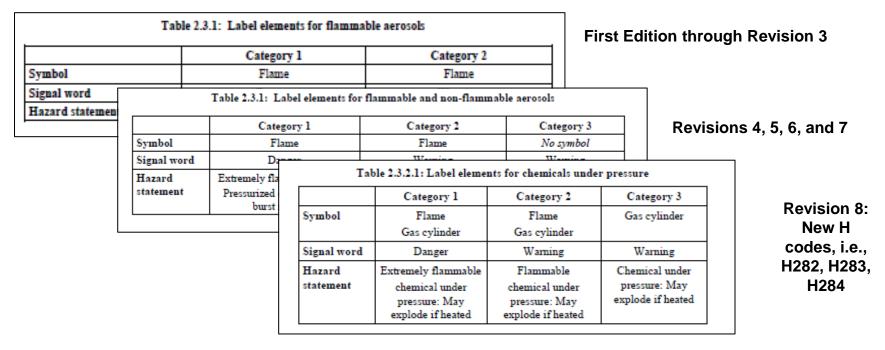
First Edition through Revision 3

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

Revisions 4, 5, 6, and 7



Flammable aerosols to Aerosols to Aerosols and chemicals under pressure





Key points – health hazards

Amendment and/or addition of definitions for numerous Health Hazard classifications in order to align with revision 7 of GHS.

Amendment of classification criteria for the Skin corrosion/irritation hazard class.

Amendment of provisions dealing with "substances and mixtures, that when in contact with water, emit a toxic gaseous substance (Water-Activated Toxicants)".



Key points – SDS

Amended sections of Schedule 1, Information Elements on Safety Data Sheets:

- Section 2 Hazard Identification
- Section 3 Composition/Information on Ingredients. Notable is the disclosure requirement for all hazardous ingredients which are present in a mixture above its relevant cut-off limits regardless of whether that ingredient contributes to the classification of the mixture.
- Section 9 Physical and Chemical Properties
- Section 14 Transport Information

Addition of the allowed use of narrower concentration ranges that still fall within prescribed ranges for disclosure of hazardous ingredients.

United States

On Feb. 5, 2021, OSHA issued a proposed rulemaking to update the Hazard Communication Standard to revision 7 of GHS.

The deadline for comments was originally Apr. 19, 2021, but also was extended to May 19, 2021.

81 comments were received and are undergoing evaluation.

When finalized, a one-year transition period for substances and a two-year period for mixtures is anticipated.



Key points – new definitions

Combustible dust

Exposure or exposed

Gas, liquid and solid

Immediate outer package

Released for shipment



Key points – classification and labeling

Addition of "under normal conditions of use and foreseeable emergencies" to Hazard classification.

Addition of "Date chemical is released for shipment" to label requirements.

New requirements for small container labeling.

Addition of concentration ranges for trade secrets consistent with those used in Canada.

Key points – Appendix B

Corrections and clarifications for Explosives, Gases under Pressure, Flammable Liquids, Flammable Solids, Self-heating Chemicals, and Oxidizing Solids proposed.

Subdivision of Category 1 (extremely flammable gases) into two Subcategories:

Subcategory 1A – includes pyrophoric gases and chemically unstable gases
Subcategory 1B – includes flammable non-pyrophoric gases and chemically stable gases with a lower flammability hazard than 1A

Addition of definitions for "chemically unstable gas" and "pyrophoric gas".

Name change to Aerosols Addition of Category 3 for non-flammable aerosols Removal of "flammable aerosol" definition

Addition/deletion of provisions regarding labeling and classification, including those products in the Aerosols hazard class do not fall within the scope of the Gases Under Pressure hazard class.

Adoption of most of the classification language on desensitized explosives from Chapter 2.17 of revision 7 of GHS.

Key points – Appendix C

Addresses labeling requirements for the new hazard classes and categories in Appendix B.

Aligns the HCS labeling with revision 7 of GHS.

Improves alignment of the HCS and Health Canada's labeling requirements.

Revises label elements for OSHA defined hazards.

Key points – Appendix D

Section 3 – Allows for concentration ranges to be withheld as a trade secret.

Section 8 – Clarification that any ingredient or constituent identified in section 3 should have exposure limits list in Section 8, as applicable. A "range" of exposure limits must be included i.e., control banding.

Section 9 – Proposed alignment with revision 7 of GHS by listing in the same order that appears in GHS.

Section 11 – Inclusion of interactive effects and alternative information.

Section 14 – Changes subheading to "Transport in bulk according to IMO instructions".

Comparison between US and Canadian proposals

Comparison between Health Canada's Proposed Regulations Amending the Hazardous Products Regulations (GHS, Seventh Revised Edition) and the United States Occupational Safety and Health Administration (OSHA's) Proposed Rulemaking to Amend the Hazard Communication Standard

Key Variances between the Canadian and U.S. Regulatory Proposals

2021-05-13

Preamble:

Health Canada's proposed Regulations Amending the *Hazardous Products Regulations* (GHS, Seventh Revised Edition) and proposed Order Amending Schedule 2 to the *Hazardous Products Act* were pre-published in the *Canada Gazette*, Part I on December 19, 2020. The *Canada Gazette*, Part I publications may be found at the following links:

https://gazette.gc.ca/rp-pr/p1/2020/2020-12-19/html/reg4-eng.html

https://gazette.gc.ca/rp-pr/p1/2020/2020-12-19/html/reg5-eng.html

Pdf: http://www.gazette.gc.ca/rp-pr/p1/2020/2020-12-19/pdf/g1-15451.pdf#page=476

Source: Health Canada

Key Variances between Health Canada and U.S. OSHA's Regulatory Proposals

Note: Wherever there is an already existing requirement or a proposed new requirement that would apply in one jurisdiction but not the other, this information is highlighted in yellow, so that the reader may easily note the differences between the two jurisdictions.

Key Variance	Existing requirement in the Canadian HPR or proposed requirement in the Regulations Amending the HPR (GHS, Seventh Revised Edition)	Proposed requirement in the U.S. proposed rulemaking to amend the HCS	Considerations
Classification of hazardous products/ chemicals	The classification of a product, mixture, material or substance (PMMS) is based on the hazards that it presents, in the form in which it is sold or imported. When classifying a PMMS, a supplier is not required to take into consideration hazards associated with a change in physical form that may occur under normal conditions of use, or hazards that would result from a reaction with other chemicals under normal conditions of use, with the exception of the following two hazards: • Substances and Mixtures Which, in Contact with Water, Emit Flammable Gases (Subpart 12 of Part 7 of the HPR); and • Water-Activated Toxicants (this hazard is covered under the Acute Toxicity hazard class (Subpart 1 of Part 8 of the HPR, in particular, subsection 8.1.1(2) which is proposed to be amended; please	Under section (d), Hazard classification, paragraph (d)(1) is proposed to be amended as follows (new text is underlined): (d)(1) Chemical manufacturers and importers shall evaluate chemicals produced in their workplaces or imported by them to classify the chemicals in accordance with this section. For each chemical, the chemical manufacturer or importer shall determine the hazard classes, and where appropriate, the category of each class that apply to the chemical being classified under normal conditions of use and foreseeable emergencies. The hazard classification shall include any hazards associated with a change in the chemical's physical form or resulting from a reaction with other chemicals under normal conditions of use. Employers are not required to classify chemicals unless they choose not to rely on the classification performed by the chemical manufacturer or importer for the chemical to satisfy this paragraph (d)(1).	Under the HPR, the classification of a PMMS is based on the hazards that it presents, in the form in which it is sold or imported. However, item 2(c) of Schedule 1 of the HPR requires the disclosure, under section 2 of the SDS, of "other hazards known to the supplier with respect to the hazardous product". For example, if a hazardous product, under normal conditions of use, will undergo a chemical reaction that will change its chemical structure, thereby generating new or more severe hazards, this information would be expected to be disclosed under Item 2(c) of the SDS.
		I	1



Brazil

In October 2020, the Brazilian Chemistry Committee (CB-010) of the Brazilian Association of Technical Standards (ABNT) opened a national consultation on the proposed Technical Standard NBR 14725: Chemicals - Information about Safety, Health and Environment – General Aspects of the Globally Harmonized System (GHS), Classification, SDS, and Labeling of Chemicals.

Purpose: Implement revision 7 of GHS and to unify into a single document the current Standard that is divided into 4 parts: Terminology; Classification; Labeling and Safety Data Sheets.

The draft Technical Standard NBR 14725 is composed of 7 sections, 17 Annexes and is 520 pages in length. Once published, there will be a two-year transition period for companies to meet the label and SDS requirements. However, companies can start using the updated version as soon as it is issued.

The public consultation ended on Nov. 19, 2020. Comments and suggestions have been reviewed by the CB-010. The analysis is now completed, and a revised draft is expected to be published and released for public consultation.



Chile

On Feb. 9, 2021, the Ministry of Health and the Ministry of the Environment published **Regulation on the Classification, Labelling, and Notification of Chemical Substances and Mixtures** through Decree 57 of Nov. 26, 2019.

This Decree implements revision 7 of GHS and establishes requirements for classification, labelling and notification (inventory) as well as for SDSs.

Implementation deadlines

- Industrial use substances: Feb. 9, 2022
- Non-industrial use substances: Feb. 9, 2023
- Industrial use mixtures: Feb. 9, 2025
- Non-industrial use mixtures: Feb. 9, 2027

DE LA REPUBLICA DE CHILE Ministerio del Interior y Seguridad Pública LEYES, REGLAMENTOS, DECRETOS Y RESOLUCIONES DE ORDEN GENERAL Núm. 42.876 | Martes 9 de Febrero de 2021 | Página 1 de 103 Normas Generales CVE 1892688 MINISTERIO DE SALUD Subsecretaria de Salud Pública

APRUEBA REGLAMENTO DE CLASIFICACIÓN, ETIQUETADO Y NOTIFICACIÓN DE SUSTANCIAS QUÍMICAS Y MEZCLAS PELIGROSAS

Núm. 57.- Santiago, 26 de noviembre de 2019.

Lo dispuesto en el artículo 32 N° 6 y 35 de la Constitución Política de la República; en los 197, 2° , 3° , 90° y 92°, del Código Sanitario, aprobado por decreto con fuerza de ley N° 725, de 1967, del Ministerio de Salud; en los artículos 4° , 69° 7° del decreto con fuerza de ley N° 1, de 2005, del Ministerio de Salud, que fija el texto refundido, coordinado y sistematizado del decreto ley N° 2.763 de 1979 y de las leyes N° 18.039 y 18.469; en la ley N° 19.300, sobre Bases Generales del Medio Ambiente; el decreto supremo N° 1, de 2013, del Ministerio del Medio Ambiente, que aprueba Reglamento del Registro de Emisiones y Transferencias de Contaminantes, RETC; en la Resolución N° 7 de 2019 de la Contaloria General de la República; y

Excluded building blocks

Intentionally Excluded	Flammable liquids category 4; Skin corrosion/irritation category 3; Serious eye damage/eye irritation category 2A and 2B; Aspiration toxicity category 2; Hazardous to the aquatic environment acute categories 2 and 3
Excluded due to Revision	Pyrophoric gas Desensitized explosives Chemicals under pressure



Classification (Title II)

To facilitate the classification of a substance or mixture classification, an official GHS list of classified substances will be available (referred as the List), which will be approved by resolution of the Ministry of Health, and it will contain hazard classes and categories.

The list will be the minimum reference for the classification; however, when manufacturers or importers wish to apply other classifications less restrictive to those indicated in the list, they must submit these for approval before the commercialization of substances and mixtures, with the technical background and/or tests, according to the methodologies referred in the regulation, before the Ministry of Health, who will evaluate and decide.

If the manufacturer or importer applies classes or categories more restrictive or in addition to those indicated in the List, it will not be necessary to send or request a formal approval by the Ministry of Health; however, the Health Authority may request the justification.

Classification (Title II)

Manufacturers or importers of substances or mixtures, included in the List, must classify and label them, at least, according to the official List.

If the substances are not in the official List, the manufacturers or importers must identify the available information and apply the classification criteria to evaluate and determine if the substance has any physical, health or environmental risk, as established in Title III.

The following information should be considered for the classification and labelling of chemical substances and mixtures:

- a) Data generated from testing with internationally validated methods, provided that all other means of generating information have been exhausted;
- b) Epidemiological data and experience on the effects on humans, such as occupational data, data extracted from the accident database, historical data in humans from epidemiological studies in exposed populations, and clinical studies that comply with the criteria corresponding to the different classes and hazards;
- c) New scientific information validated internationally;
- d) Information generated within the framework of internationally recognized chemical programs;
- e) Adequate and recognized information from the scientific literature.

Chile mandatory list of GHS classifications

On Aug. 23, 2021, via Resolution 777, Chile published its mandatory list of ~4500 GHS classifications.



		Clasificación	Clasificación	Límites de	
Nombre químico		Códigos de clase y categoría de peligro	Códigos de indicaciones de peligro	concentración específicos y factores M	Notas
((4-(5-Oxo-3- propilisoxazolidin- 4- ilidenmetin)fenil)propoxicar bo-nilmetilenamino)acetato de pro-pilo	198705-81-6	Aquatic Chronic 4	H413		
((N -(3- Trimetilamoniopropil)sul- famoil)metilsulfonatoftaloci anina- to)cobre (II) de sodio	124719-24-0	Eye Dam. 1	H318		
(-)-(1R, 2S)-(1,2- Epoxipropil)fos- fonato de (R)-α-feniletilamonio	25383-07-7	Repr. 2 Aquatic Chronic 2	H361f H411		



Labelling requirements (Title IV)

Label elements must be in Spanish.

Required label elements

- Product identifier
- CAS number is required (if exists). In case of mixtures, the identity of all substances in the mixture that contribute to its hazard classification.
- Hazard pictogram(s)
- Signal word: Danger (in Spanish Peligro) or Warning (in Spanish Atención)
- Hazard statement(s)
 Precautionary statement(s)
 Should not exceed 6 precautionary statements unless additional inclusions are required.
- NEW Supplementary information: For consumer products available to the general public, an in-country emergency telephone number of a toxicological center with 24/7 service. Appropriate contractual arrangements must be in place.
- Name, address and telephone number of national supplier and net content of substance or mixture.



Colombia

Resolution 773 was issued on Apr. 7, 2021, to implement Decree 1496 of 2018 which implements revision 6 of GHS.

Administering authorities: Ministry of Labour and Ministry of Health and Social Protection

Implementation deadlines:

Substance and diluted solutions: Apr. 7, 2023

Mixtures: Apr. 7, 2024

Source: Resolution 773



Key points

Mandatory review of SDSs and labels every five years.

Carcinogenicity criteria aligns with the International Agency for Research on Cancer.

Small containers

- Containers smaller than 30 milliliters would need to display at least the name of the product and hazard pictograms. Alternative labeling methods for these smaller products may be used when handled or stored at the workplace.
- Containers smaller than 250 milliliters should be labeled according to the recommendations provided by revision 6 of GHS for small containers.



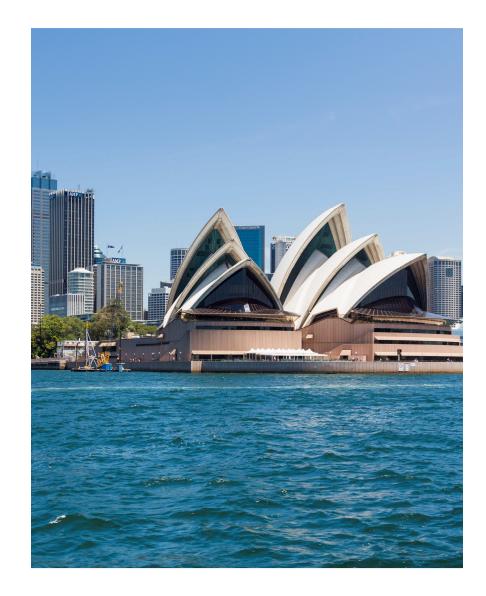
Asia Pacific

Australia

In January 2020, Safe Work Australia (SWA) agreed to move to revision 7 of GHS.

It was adopted under the Model Work Health and Safety (WHS) laws for workplace hazardous chemicals and was effective Jan. 1, 2021.

Deadline for compliance: Dec. 31, 2022





Guidance materials



Australia Model Code of Practice on the Preparation of Safety Data Sheets for Hazardous Chemicals (last amended July 2020)



Australia Model Code of Practice on the Labelling of Workplace Substances (last amended July 2020)



Australia Classifying Hazardous Chemicals – National Guide (last amended 2020)



Key points

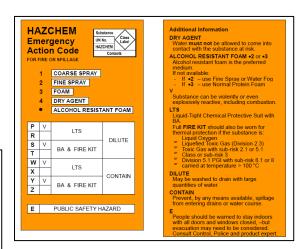
SDS and label content must be reviewed at minimum every 5 years.

Section 1 of the SDS requires the use of an Australian name, address and telephone number. The emergency telephone number must also originate in Australia.

Section 14 of the SDS should include the Hazchem or Emergency Action Code

Size of label is based on container size:

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



HCIS updated GHS classifications (non-mandatory)

CAS No	Chemical Name	Hazard Category	Pictogram Codes and Signal Word	Hazard Statement Code	Hazard Statement	Notes	Source
108-88-3	Toluene; Benzene, methyl-	Flammable liquid – category 2; Skin irritation – category 2; Specific target organ toxicity (repeated exposure) – category 2; Reproductive toxicity – category 1A; Specific target organ toxicity (single exposure) – category 3; Aspiration hazard – category 1	GHS02; GHS07; GHS08; Danger	H225; H315; H373; H360; H336; H304	Highly flammable liquid and vapour; Causes skin irritation; May cause damage to organs through prolonged or repeated exposure; May damage fertility or the unborn child; May cause drowsiness or dizziness; May be fatal if swallowed and enters airways	8	N

Classifications for over 500 existing substances were revised in the spring of 2021 plus new classifications were added for over 700 substances bringing the total of classified substances to over 6300.

HCIS = Hazardous Chemicals Information System



ADG revised

In July 2020, the National Transport Commission (NTC) released an updated version of the Australian Dangerous Goods Code (ADG) for transport of dangerous goods in Australia by road and rail.

The newest Edition, 7.7 became mandatory on Oct. 1, 2021.

While the NTC maintains and updates the codes, each state and territory in Australia must adopt it into their own dangerous goods legislation.

The latest edition of the ADG is aligned with the 21st revised edition of the United Nations (UN) recommendation on the Transport of Dangerous Goods Model Regulations while still maintaining some unique Australian provisions.

Japan

In late May 2019, Japan updated its JIS Z 7252 and 7253 standards from revision 4 to revision 6 of GHS.

JIS Z 7252: Classification of Chemicals Based on Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

JIS Z 7253: Hazard Communication of Chemicals Based on GHS - Labeling and Safety Data

Chemical suppliers have until May 24, 2022 to adopt the requirements and update their SDSs and labels if necessary.

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Planned expansion

The Minister of Health, Labour, and Welfare (MHLW) is making progress with its plan to expand the number of hazardous chemical substances subject to mandatory Safety Data Sheets (SDSs) and labels under its Industrial Health and Safety Law (ISHL).

On Apr. 27, 2021, an interim plan and timeline of implementation were presented at the 13th meeting of the Study Group under the MHLW Concerning the Management of Chemical Substances in the Workplace.

The plan aims to add several hundred chemical substances to Table 9 of the Cabinet Order of the ISHL per year for the next three years. Table 9 of the Cabinet Order currently lists 633 chemical substances. The ISHL requires chemical suppliers to prepare an SDS and label for substances listed in Table 9.

Chemical suppliers also must prepare an SDS and label for mixtures containing substances in Table 9 above the cutoff value found in Table 2 of the Ordinance of ISHL.

The additional substances to be added to Table 9 are to be selected from the 3,018 substances the Japanese government has classified and published according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Proposed health hazard prevention measures

In August 2021, the Ministry of Health, Labour and Welfare (MHLW) **proposed** health hazard prevention measures for 236 substances including mandatory SDS and labelling requirements under the Industrial Safety and Health Act (ISHA).



South Korea

In December 2019, South Korea's Ministry of Employment and Labor (MOEL) finalized amendments to the subordinate regulations of the Industrial Safety and Health Act (ISHA).

Most of the amendments became effective on Jan. 16, 2020; however, the amendments applicable to hazard communication, including (M)SDS's, became effective on Jan. 16, 2021.

- <u>Mandatory</u> submission of MSDSs to MOEL by manufacturers or importers of hazardous products (exception for research purposes if less than 100 kg/year and packaged in a container ≤10 kg) through a K-OSHA portal(Article 110-1 of the revised Act);
- Mandated approval from MOEL of any CBI components before manufacture or import; if approved an alternative chemical name must be used; CBI is effective for 5 years and may be extended an additional 5 years upon request which must be submitted 30 days prior to the expiration date (Article 112 of the revised Act);
- Non-Korean manufacturers can appoint an Only Representative (OR) to handle the above referenced submissions; an OR is obligated to report their appointment or resignation to MOEL (Article 113 of the revised Act).

Grace period for submission

MSDSs, already authored/updated and provided to recipients/transferees in accordance with ISHA before the amendments take effect, are granted up to 5 years of grace period of (M)SDS submission obligation based on the annual quantity.

This exception applies to manufactures and importers only. (M)SDS complying with the amendments must be submitted before the deadline listed below:

- The annual quantity of manufacture/import for harmful agents is >1,000 tonnes: Jan. 16, 2022
- The annual quantity of manufacture/import for harmful agents is 100 to 1,000 tonnes: Jan. 16, 2023
- The annual quantity of manufacture/import for harmful agents is 10 to 100 tonnes: Jan. 16, 2024
- The annual quantity of manufacture/import for harmful agents is 1 to 10 tonnes: Jan. 16, 2025
- The annual quantity of manufacture/import for harmful agents is <1 tonne: Jan. 16, 2026



South Korea

The Standard on Classification and Labelling of Chemical Substances and Preparation of Material Safety Data Sheets was initially published in 1996 but amended 11 times with the 2006 amendment implementing GHS with the most recent amendment on Nov. 12, 2020 (MOEL Public Notice No. 2020-130) which implemented revision 6 of GHS.

Its effective date was Jan. 16, 2021.



OVERVIEW OF CONTENTS

Article 1: Purpose

Article 2: Definitions

Article 3: Scope and exemptions

Article 4: Classification criteria reference to Annex 1

Articles 5 - 9: Labelling obligations

Articles 10 -15: MSDS obligations

Articles 16-18: Trade secret provisions

Annex 1: Classification criteria (GHS compliant)

Annex 2: Classification and labelling summary tables

Annex 3: Format and size of warning labels

Annex 4: MSDS format

Annex 5: Usage classification system

Annex 6: Concentration limits for health and environmental hazards

Annex 7: Trade secret provisions



Key points

Contact information required for South Korean responsible party

Label text in Korean except for:

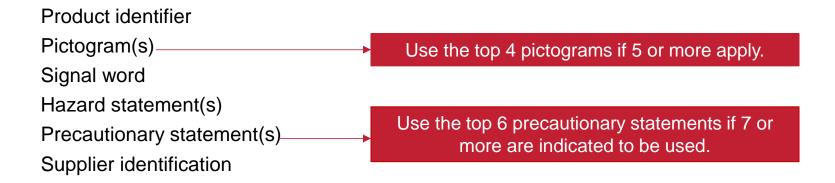
- Lab reagents sourced from outside of South Korea
- Finished products which are in storage or in transit for export

Reduced labelling possible for containers under 100 ml/100 g:

- Label elements to be included: product name, pictogram, signal word, supplier information
- Other information items such as hazard statements and precautionary statements must be included on the corresponding MSDS



Label elements



Background of warning label is white with the characters and symbols in black BUT if it is difficult to have the background white, then the surface of the container may be used as the background color EXCEPT when similar to black; then a contrasting color for the characters and symbols is necessary.

Label size

Annex 3 provides a table for label size that is dependent on the container size:

Capacity of container or package	Size of printing or label
Capacity ≥ 500 1	Equal to or more than 450 cm²
200 1 ≤ Capacity < 500 1	Equal to or more than 300 cm²
50 1 ≤ Capacity < 200 1	Equal to or more than 180 cm²
5 1 ≤ Capacity < 50 1	Equal to or more than 90 cm²
Capacity < 51	5% or more of surface excluding top and bottom area of package

The size of each GHS symbol must be 1/40th or more of the entire label size with a minimum size of 0.5 cm².

MSDS

Article 10 specifies a 16-section format (Annex 4)

- Section 1 requires the use of Annex 5 to determine 'recommended use'
- Section 3 specifies provisions for ingredient trade secrecy; MOEL approval number needed (see Annex 7 for details)
- Section 15 specifies that regulations under the following be considered:
 - Industrial Safety and Health Law
 - Toxic Chemicals Control Law
 - Dangerous Substance Safety Management Law
 - Waste Management Law
 - Other relevant national and foreign laws

<ANNEX 5>

Usage Classification System (Related to Article11)

No.	Usage	Description
1	Feed materials and Intermediates	Feed materials used for syntheses of new substances, formulation of mixtures, etc. and intermediates generated during the course
2	Adhesives and sealants	Substances intended to fuse contact faces of two articles and join two entities
3	Adsorbents	Substances that adsorb gas or liquid
4	Air care products	Substances used to generate odor inside a room and to remove odor of clothing, etc.

New Zealand

New Zealand is moving to revision 7 of GHS via the Hazardous Substances (Hazard Classification) Notice 2020 (approved on Oct. 15, 2020).





Notices

Hazardous Substances (Hazard Classification) Notice 2020

Hazardous Substances (Safety Data Sheets) Notice 2017

Hazardous Substances (Labelling) Notice 2017

Hazardous Substances (Disposal) Notice 2017

Hazardous Substances (Packaging) Notice 2017

Even though the date in the title of all but one of the Notices did not change, all these Notices now are considered 'consolidated' and reflect conversion to revision 7 of GHS.





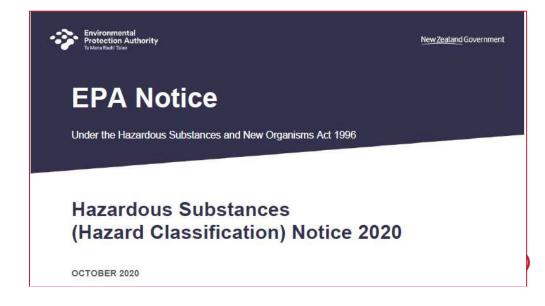
Hazardous Substances (Hazard Classification) Notice 2020

Approved on Oct. 15, 2020, this updated Notice implements revision 7 of the UN GHS replacing the Hazardous Substances (Hazard Classification) Regulation 2017

Of note is the unique NZ numbering classification system has reverted to the standard GHS hazard classes and categories style with the searchable CCID updated to reflect this.

Effective date: Apr. 30, 2021

The NZ EPA has revoked and reissued 208 group standards to reflect the standard GHS classification approach.



Building blocks

Intentionally excluded building blocks

- Acute toxicity category 5
- Skin corrosion/skin irritation category 3
- · Aspiration hazard category 2
- Hazardous to the aquatic environment acute categories 2 and 3
- · Hazardous to the ozone layer

Serious eye damage/irritation category 2 includes anything that would be classified as a 2A or 2B.

Respiratory and skin sensitizers category 1 is not subdivided into A and B.

Added building blocks (applies only to agrichemicals or an active ingredient used in the manufacture of an agrichemical that is a pesticide or veterinary medicine)

- Hazardous to soil organisms
- Hazardous to terrestrial vertebrates
- Hazardous to terrestrial invertebrates



Implementation deadlines

All new and amended Notices and group standards entered into force on Apr. 30, 2021.

For any hazardous substances approved prior to Apr. 30, 2021:

Update labelling, SDS and packaging provisions by Apr. 30, 2025

For any hazardous substances approved after Apr. 30, 2021:

 All updated rules must be followed and the GHS revision 7 classification for labels and safety data sheets must be used after the approval.

Singapore

SS 586 - Part 1: Transport and Storage of Dangerous Goods was updated in 2021

Updated requirements for the transport emergency information panel (TEIP) (Annex D) and the storage emergency information panel (SEIP) (Annex E).

TEIP applies to bulk transport vehicles and the placard for the transport of dangerous goods.

SEIP applies to bulk storage of dangerous goods, warning placards for package stores, warning panel for storage in public areas.



Taiwan

In January 2020, an amendment to the Toxic Chemical Substances Labeling and Material Safety Data Sheets Regulations (毒性化學物質標示及安全資料表管理辦法) was published by Environmental Protection Administration Order Huan-Shu-Tu-Tzu No. 1098000003.

Most of the Regulation took effect beginning Jan. 16, 2020; Article 3 and Article 12 took effect on Jan. 16, 2021.

Key changes are:

- Adds requirements for chemical substances of concern which mirror existing requirements for toxic chemical substances.
- Allows an alternative method for labelling such as a fold-out label, a tagged label or a label
 on the outer package, when it is difficult to use an entire label due to the size or shape of a
 container or package.
- Specifies use of traditional Chinese for labeling and Safety Data Sheets with English allowed when necessary.
- Requires review of Safety Data Sheets at least once every 3 years.
- Allows the use of the same Safety Data Sheets for a toxic or concerned chemical substance with different concentration but the same usage and hazardous properties.
- Requires the inclusion of CAS numbers for hazardous substances on a label.

Thailand

On Sep. 7, 2020, Thailand joined the OECD system of Mutual Acceptance of Data (MAD).

Other non-OECD member countries signatories to MAD

- Argentina
- Brazil
- India
- Malaysia
- Singapore
- South Africa



Europe

12th ATP to CLP

On Mar. 28, 2019, the European Commission released an update to the Classification, Labelling and Packaging (CLP) regulations ((EU) 2019/521) to reflect revisions 6 and 7 of GHS.

Enforcement of the revised provisions started Oct. 17, 2020.

Key changes

- Annex I: Introduced a new hazard class for desensitised explosives (Category 1-4) and a new hazard category, pyrophoric gases (within the hazard class flammable gases and updating the category name); cut-off value for STOT-RE 3 and aspiration toxicity added to table 1.1 (generic cut-offs); revised the criteria for substances and mixtures which in contact with water emit flammable gases; and amended the details of the definitions and classification criteria for several hazard classes.
- Annex II: Deleted phrase EUH001; renumbered sections.
- Annex III: Added hazard statements H206, H207, H208 and H232.
- Annex IV: Corrected and revised P phrases.
- Annex IV: Added a new hazard category, i.e., desensitised explosives.
- Annex VI: Added a new hazard category for flammable gases and a new hazard class, desensitised explosives in table 1.1.

14th ATP to CLP

On Oct. 19, 2019, the European Commission released an update to the Classification, Labelling and Packaging (CLP) regulations ((EU) 2020/217).

Article 2 applied Dec. 1, 2019 (single entry correction to Annex VI for high temperature coal tar pitch) with the balance of the updates enforced Sep. 9, 2021.

Key changes

• Annex II:

'2.12. Mixtures containing titanium dioxide

The label on the packaging of liquid mixtures containing 1 % or more of titanium dioxide particles with aerodynamic diameter equal to or below 10 µm shall bear the following statement:

EUH211: 'Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist.'

The label on the packaging of solid mixtures containing 1 % or more of titanium dioxide shall bear the following statement:

EUH212: 'Warning! Hazardous respirable dust may be formed when used. Do not breathe dust.'

In addition, the label on the packaging of liquid and solid mixtures not intended for the general public and not classified as hazardous which are labelled with EUH211 or EUH212, shall bear statement EUH210.'

• Annex VI: 2 deletions, 11 revisions including 8 new ATEs, 17 additions including 6 new ATEs



15th ATP to CLP

On Aug. 11, 2020, the European Commission released an update to the Classification, Labelling and Packaging (CLP) regulations ((EU) 2020/1182) to implement a series of new Annex VI harmonised substance classifications including a new harmonised Acute Toxicity Estimate (ATE) for Nitric acid. Enforcement begins Mar. 1, 2022.

The 15th ATP consists of 37 new entries including 21 ATEs, 21 updates including 17 ATEs and 2 deleted entries.

16th ATP to CLP

On Apr. 20, 2021, the European Commission released an update to the Classification, Labelling and Packaging (CLP) regulations ((EU) 2021/643).

These are the first changes that will not be automatically adopted by the U.K.

Compared to more recent updates, these are small phrasing changes to Notes J-R and 8-9 that provide considerations for specific entries to the Annex VI list. In general, these notes mostly affect UVCB (unknown or variable composition, complex reaction products or of biological materials) substances, such as petroleum oils, and cover the right to amend a harmonized classification if it can be proven that specific impurities are present at low enough concentrations.

The changes to the text as stated are relatively minor and have been designed to remove the inaccuracies and uncertainty about the correct interpretation of legal obligations that were present in the previous wording. In particular, the new wording enhances the need for the person undertaking the classification to undergo the full classification process for the substance and not just remove the additional hazards and assume the product is not required to be labeled.

Due to the minimal size of the impact, the regulation entered into force 20 days after its publication on May 10, 2021.

17th ATP to CLP

On May 28, 2021, the European Commission released an update to the Classification, Labelling and Packaging (CLP) regulations ((EU) 2021/849).

This latest update includes 22 new entries, 39 updated entries and one classification deletion. Within these are the common substances Citric acid, Boric acid and d-Limonene, and particular attention has been paid to the inclusion of specific acute toxicity estimate values and multiplying factors.

Due to the need to allow suppliers time to update their products, and to sell any existing stocks that have already been labeled, the regulation will apply starting Dec. 17, 2022.

Draft 18th ATP to CLP

A draft of the 18th ATP was released in August 2021 with:

- 39 new entries proposed including 7 new ATEs
- 17 revised entries proposed including 12 new ATEs

Enforcement Report

In September 2020, ECHA released a report on the pilot project which was completed in cooperation with customs enforcement.

Key observations:

- Overall non-compliance rate with REACH restrictions was 17%
- Overall non-compliance rate for CLP was 64%
 - Absence of use of national language on the label
 - Use of wrong/absent pictograms/signal words



Planned Enforcement Forum

During its 38th plenary meeting, held on June 15-16, 2021, the Enforcement Forum determined that the SDS content and quality of information will be evaluated as part of the EU-wide enforcement project (REF-11) with inspections in 2023 with the subsequent report expected in 2024.

The content and format of the SDS will be checked in accordance with the revised requirements of Annex II of the REACH regulation.



EU Sustainable Chemical Strategy Released

On Oct. 14, 2020, the European Commission (EC) released its long-range strategy document on chemical sustainability that is expected to drive innovation and policy in the European chemical industry for the foreseeable future.

The main aim of the strategy is to change the way chemicals are produced and used, so that they minimise the impact on human health and the environment, while maximizing their contribution to society. In the process, a more circular economy is to be generated with secondary materials being required to meet the same high standards as virgin ones, and incentives are to be provided to help industry and its value chain undergo the green transition.

To achieve these aims the EC has outlined 16 areas to be addressed, covering topics such as how to make products sustainable by design, how they intend to move towards a group chemical assessment approach, and how digital technologies are to be used to innovate chemical product production.

Relevant EU consultations

In May 2021, the European Commission (EC) issued drafts for consultation on roadmaps for the revision of REACH and CLP. Comments were due Jun. 1, 2021.

In July 2021, the EC launched a consultation on the simplification and digitilisation of labels for chemical products for labels required under CLP, the Detergents Regulation and the Fertilising Products Regulation. Comments were due Sep. 20, 2021.

In August 2021, the EC launched a public stakeholder consultation on a targeted revision of CLP. Comments due Nov. 15, 2021.

New hazard classes envisioned:

- Endocrine disruptors (ED)
- Persistent, Mobile and Toxic (PMT)
- very Persistent, very Mobile (vPvM)
- Persistent, Bioaccumulative and Toxic (PBT)
- very Persistent, very Bioaccumulative (vPvB)



Eurasia

Revisions expected for the following standards:

- GOST 30333 of 2007 Chemical Safety Passport
- GOST 32419 of 2013 Classification of Chemical Products
- GOST 31340 of 2013 Labelling

Drafts were released in the spring of 2021 and reviewed in the summer of 2021 but there is no timeline for finalization of the revised standards.

Middle East/Africa

Egypt

In March 2021, a proposed Ministerial Decree No. 610 of 2020 mandating compliance with Egyptian Standard (ES) 8398 "Safety data sheet for chemical products – Content and order of sections)" was issued which is essentially identical to ISO 11014 of 2009 (16 section format).

Comment period ended May 29, 2021.

Proposed transition period six months after finalization



Israel

In April 2019, revised standards were made available:

- SI 2302 Part 1 2019 Dangerous Substances and Mixtures: Classification, Labelling, Marking and Packaging
- SI 2302 Part 2 2019 Transportation: Classification, Labelling, Marking and Packaging

The new requirement took effect Aug. 9, 2019, with a three-year transition period ending

Aug. 9, 2022.

- It is not clear as to which version of the GHS these standards are based on, since it is not stated, but since 'flammable aerosols' and not 'aerosols' are identified as an end point, this suggests that it is based on the revision 3.
- However, H229, H230 and H231 are also included and these hazard statements were first introduced in revision 4.
- Based on the first page and section 2 page 2 of the Standard, where
 it is stating the adopted regulations and standards including all its
 amendments and updates, it appears to be adopting revision 6 of
 GHS.

South Africa

On Mar. 29, 2021, the Ministry of Employment and Labour of South Africa, under the Occupational Health and Safety Act, 1993 published the long-awaited Regulation of Hazardous Chemical Agents (HCA) with an implementation deadline of Sep. 29, 2022.

Which version of GHS? Unclear

Excluded building blocks

- Explosives
- Pyrophoric gas
- Aerosol category 3
- Flammable liquid category 4
- Acute toxicity category 5
- Skin corrosion/irritation category 3
- Serious eye damage/eye irritation category 2b
- Hazardous to the aquatic environment (acute) categories 2 and 3
- Hazardous to the aquatic environment (chronic) categories 3 and 4



Resources – Americas

Canada proposed "Regulations Amending the Hazardous Products Regulations (GHS, Seventh Revised Edition)." Canada Gazette, Part I, Dec. 29, 2020 edition (see pages 4236 to 4299): http://gazette.gc.ca/rp-pr/p1/2020/2020-12-19/pdf/g1-15451.pdf

Health Canada issued comparison of US and Canadian proposals: https://ghsnotebook.files.wordpress.com/2021/06/comparison-between-hc-and-us-oshas-reg-proposals eng 2021-05-13 final.docx

United States Notice of Proposed Rulemaking (NPRM) to modify the Hazard Communication Standard (HCS) to conform to the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS) Revision 7: https://public-inspection.federalregister.gov/2020-28987.pdf

Brazil ABNT portal: https://www.abntonline.com.br/consultanacional/projetat.aspx (Portuguese)



Resources – Americas

Chile Regulation on the Classification, Labeling, and Notification of Hazardous Substances and Mixtures: https://www.diariooficial.interior.gob.cl/publicaciones/2021/02/09/42876/01/1892688.pdf (Spanish)

Chile Resolution 777: https://www.bcn.cl/leychile/navegar?idNorma=1164063 (Spanish)

Chile mandatory classification list: https://dipol.minsal.cl/wp-content/uploads/2021/08/Lista-de-sustancias-clasificadas-Chile-05072021.pdf (Spanish)

Colombia Resolution 773:

https://www.mintrabajo.gov.co/documents/20147/61442826/0773.PDF/3047cc2b-eae1-e021-e9bf-d8c0eac23e05?t=1617984928238 (Spanish)



Australia GHS 7 transition page: https://www.safeworkaustralia.gov.au/ghs-7-transition

Australia Model Code of Practice on the Preparation of Safety Data Sheets for Hazardous Chemicals (last amended July 2020): https://www.safeworkaustralia.gov.au/sites/default/files/2020-09/model_code_of_practice_preparation_of_safety_data_sheets_for_hazardous_chemicals.pdf

Australia Model Code of Practice on the Labelling of Workplace Substances (last amended July 2020): https://www.safeworkaustralia.gov.au/sites/default/files/2020-09/model code of practice labelling of workplace hazardous chemicals.pdf

Australia Classifying Hazardous Chemicals - National Guide (last amended 2020): https://www.safeworkaustralia.gov.au/sites/default/files/2020-07/classifying-hazardous-chemicals-national-guide.pdf

National Transport Commission, Australian Code for the Transport of Dangerous Goods by Road and Rail Edition 7.7 – https://www.ntc.gov.au/sites/default/files/assets/files/ADGC-7.7.pdf



Japan Standards Association: https://www.jsa.or.jp/en/ (Japanese)

Japan: https://www.jaish.gr.jp/horei/hor1-1/hor1-1-7-1-11.html (Japanese)

Japan: https://www.jaish.gr.jp/horei/hor1-2/hor1-2-1-m-3.html (Japanese)

South Korea: 산업안전보건법 (전부개정 1. 15, 법률 제16272호, 시행일 2020. 1. 16), Occupational Safety and Health Act (OSHA) (Wholly amended on Jan, 15, 2019 as Act No. 16272, effective Jan. 16, 2020) (Korean)



South Korea Enforcement Decree:

http://law.go.kr/LSW/lsInfoP.do?lsiSeq=212399&ancYd=&ancNo=&efYd=20200116&nwJoYnInfo=Y&ancYnChk=0&efGubun=Y&vSct=%EC%82%B0%EC%97%85%EC%95%88%EC%A0%84%EB%B3%B4%EA%B1%

<u>B4%EB%B2%95#0000</u> (Wholly amended on Dec. 24, 2019 as Presidential Decree No. 30256, effective Jan. 16, 2020) (Korean)

South Korea Enforcement Regulation:

http://law.go.kr/LSW/lsInfoP.do?lsiSeq=212709&ancYd=&ancNo=&efYd=20200116&nwJoYnInfo=Y&ancYnChk=0&efGubun=Y&vSct=%EC%82%B0%EC%97%85%EC%95%88%EC%A0%84%EB%B3%B4%EA%B1%B4%EB%B2%95#0000 (Wholly amended on Dec. 26, 2019 as MOEL Ministry Ordinance 272, effective Jan. 16, 2020) (Korean)



KOSHA MSDS Brochure:

https://ul.sharepoint.com/sites/collab/622/GoldenGCS/GCSRegionalPackets/Shared
Documents/Forms/AllItems.aspx?id=%2Fsites%2Fcollab%2F622%2FGoldenGCS%2FGCSRegionalPackets%2FShared Documents%2FRegulatory Task Force%2FSupporting Documents%2FNEW MSDS
EN_210401%2Epdf&parent=%2Fsites%2Fcollab%2F622%2FGoldenGCS%2FGCSRegionalPackets%2FShared Documents%2FRegulatory Task Force%2FSupporting Documents

New Zealand Hazardous Substances (Hazard Classification) Notice 2020: https://gazette.govt.nz/notice/id/2020-au4842

New Zealand GHS update portal: https://www.epa.govt.nz/industry-areas/hazardous-substances/new-zealands-new-hazard-classification-system/

Singapore SS 586-1: 2021: https://www.singaporestandardseshop.sg/Product/SSPdtDetail/1022cbe4-4404-4a8b-98b4-23e6f4127048



Resources – Europe

12th ATP to CLP: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2019.086.01.0001.01.ENG&toc=OJ%3AL%3A2019%3A086%3ATOC

14th ATP to CLP: https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1582045075820&uri=CELEX:32020R0217

15th ATP to CLP: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32020R1182

16th ATP to CLP: https://eur-lex.europa.eu/eli/reg_del/2021/643/oj

17th ATP to CLP: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32021R0849&gid=1622212379974



Resources – Europe

EU report on the pilot project on cooperation with customs in enforcement of REACH restrictions and CLP labelling:

https://echa.europa.eu/documents/10162/17086/customs2_project_report_en.pdf/5a2c3795-7ed9-5900-fe28-540228abc7c1

EU Sustainable Chemical Strategy: https://ec.europa.eu/environment/strategy/chemicals-strategy_en

EU Consultations portal:

https://ec.europa.eu/info/consultations_en?order_by_status=All&field_core_topics_target_id_entityreference filter=All



Resources – Mid East/Africa

Egypt proposed Ministerial Decree No. 610 of 2020:

https://tsapps.nist.gov/notifyus/docs/wto_country/EGY/full_text/pdf/EGY288%5b2%5d(arabic).pdf

GCC Draft: https://www.gso.org.sa/en/

Israel SI 2302 Standards: https://ibr.sii.org.il/ibr/#/standards/1 (Hebrew only)

South Africa - Regulation of Hazardous Chemicals Agents (HCA): https://www.gov.za/sites/default/files/gcis_document/202103/44348rg11263gon280.pdf

