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

The GHS in the workplace
Webinar
21 November 2024

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The GHS: Context

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Political context of the GHS

GHS is often regarded as a fundamental component of the sound management of chemicals, applicable to all sectors; **health, labour, agriculture, environment, transport, trade, and more**.

Global political backing:

- Plan of Implementation, adopted by WSSD (2002), encouraged **countries to implement the GHS as soon as possible**.
- The High Ambition Alliance stated at IP3 (Bangkok, 2019): "…**essential that the [GHS] be implemented by all countries**"
- The GCO-II (UNEP, 2019), under Action 1 on developing effective management systems calls for "**full implementation of the GHS**".

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Political context of the GHS

GHS has direct relevance to:

- **FAO/WHO Code of Conduct on Pesticides** (and labelling guidance)
- **WHO Chemicals Roadmap**
- **ILO Convention 170**
- **The Rotterdam Convention**
- **The Stockholm Convention**
- **Highly Hazardous Pesticides**
- **Sustainable trade, development**
- **Sustainable chemistry**
- **And more..**

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Political context of the GHS

FAO, in their 2022 update to the Guidance on good labelling practice for pesticides notes that:

“the GHS has become the international standard for classification and labelling of chemicals, including pesticides… This guidance recommends use only of the GHS for pesticide labelling”.

Further to this:
“**FAO** and **WHO**… strongly recommend progressive adoption of the GHS for classification and labelling of pesticides”.

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Example: The GHS and the Rotterdam Convention

Information to accompany export (Article 13)

- both **chemicals listed in Annex III and chemicals banned or severely restricted** in the exporting Parties, when exported, shall be **adequately labelled** with regard to health or environmental hazards, **taking into account international standards** (e.g. UN GHS)
- All hazardous chemicals, when exported, shall be accompanied by **safety data sheets** according to **international standards** (e.g. UN GHS)

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Example: The GHS and HHPs

The FAO/WHO Joint Meeting on Pesticide Management [2008] recommended that HHPs should be defined as having one or more of the following:

Criterion 2: Pesticide active ingredients and their formulations that meet the criteria of carcinogenicity Categories 1A and 1B of the **GHS**, or

Criterion 3: …meet the criteria of mutagenicity Categories 1A and 1B of the **GHS**, or

Criterion 4: …meet the criteria of reproductive toxicity Categories 1A and 1B of the **GHS**

n.b. Criterion 6: Pesticide active ingredients and formulations listed by the RC in Annex III

(8 criteria overall)

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Example: ILO C170

https://normlex.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:12100:0::NO::P12100_ILO_CODE:C170

Article 7

LABELLING AND MARKING

1. All chemicals shall be marked so as to indicate their identity.
2. Hazardous chemicals shall in addition be labelled, in a way easily understandable to the workers, so as to provide essential information regarding their classification, the hazards they present and the safety precautions to be observed.
3..
    1. (1) Requirements for marking or labelling chemicals pursuant to paragraphs 1 and 2 of this Article shall be established by the competent authority, or by a body approved or recognised by the competent authority, in accordance with national or international standards.

Article 8

CHEMICAL SAFETY DATA SHEETS

1. For hazardous chemicals, chemical safety data sheets containing detailed essential information regarding their identity, supplier, classification, hazards, safety precautions and emergency procedures shall be provided to employers.
2. Criteria for the preparation of chemical safety data sheets shall be established by the competent authority, or by a body approved or recognised by the competent authority, in accordance with national or international standards.
3. The chemical or common name used to identify the chemical on the chemical safety data sheet shall be the same as that used on the label.

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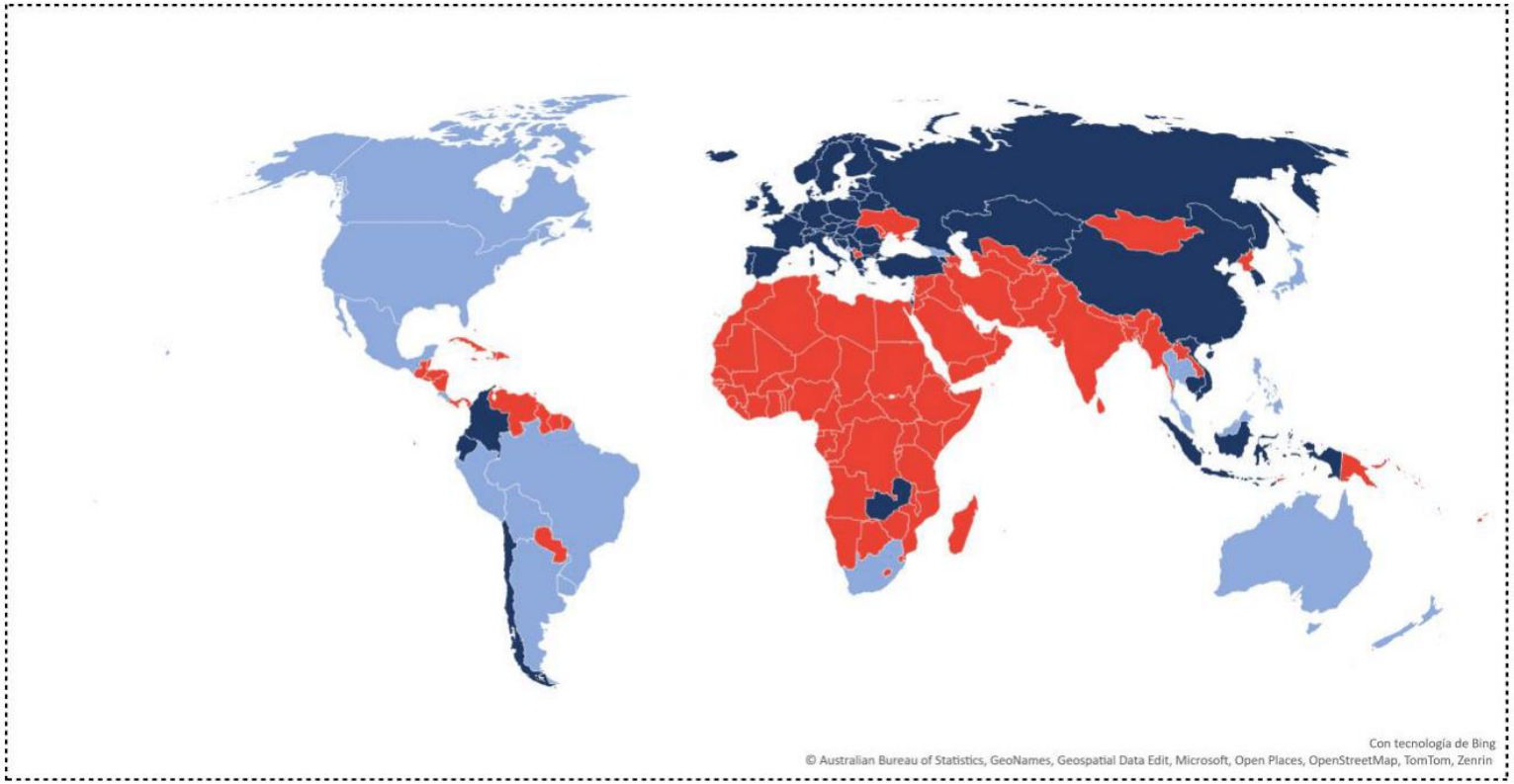
The GHS globally

However, despite this, the GHS is still **not operational in more than 120 countries**, mostly developing countries and countries with economies in transition.



The boundaries shown on this map do not imply endorsement or acceptance by UNITAR

GHS IMPLEMENTATION KEY

0 - no legal implementation

1 - legal implemenation in 1 or 2 sectors

2 - legal implementation in all sectors

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The Global Framework on Chemicals

<u>GHS and the GFC</u>

Bonn, Germany, 25 - 29 September 2023

Global Framework on Chemicals – For a Planet Free of Harm from Chemicals and Waste,

Bonn Declaration – for a Planet Free of Harm from Chemicals and Waste,

An agreed target:

B6 – By 2030, all Governments have implemented the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) in all relevant sectors as appropriate for their national circumstances.

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What is the GHS?

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Origins of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) 1992

Rio 1992...

B. Harmonization of classification and labelling of chemicals

Basis for action

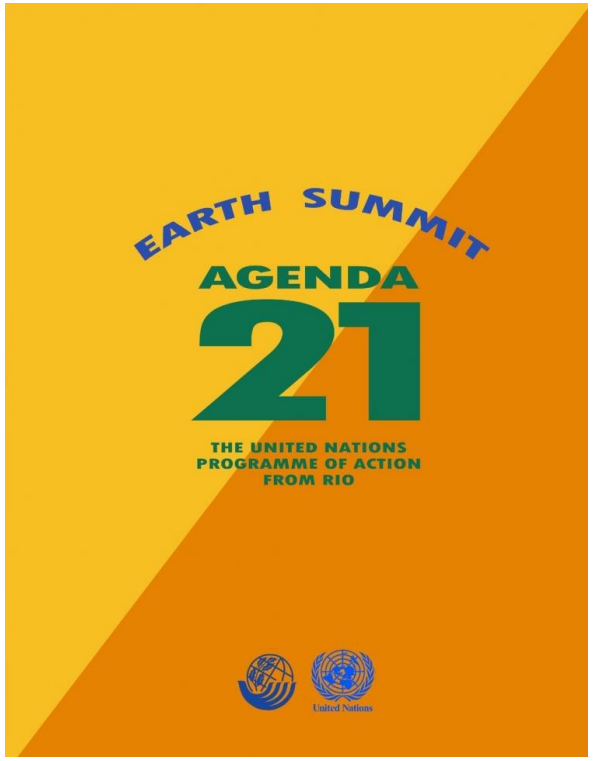
19.24. Adequate labelling of chemicals and the dissemination of safety data sheets such as ICSCs (International Chemical Safety Cards) and similarly written materials, based on assessed hazards to health and environment, are the simplest and most efficient way of indicating how to handle and use chemicals safely.

19.25. For the safe transport of dangerous goods, including chemicals, a comprehensive scheme elaborated within the United Nations system is in current use. This scheme mainly takes into account the acute hazards of chemicals.

19.26. Globally harmonized hazard classification and labelling systems are not yet available to promote the safe use of chemicals, inter alia, at the workplace or in the home. Classification of chemicals can be made for different purposes and is a particularly important tool in establishing labelling systems. There is a need to develop harmonized hazard classification and labelling systems, building on ongoing work.

Objectives

19.27. A globally harmonized hazard classification and compatible labelling system, including material safety data sheets and easily understandable symbols, should be available, if feasible, by the year 2000.



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Purpose and benefits of the GHS

Enhance the protection of human health and the environment by providing an internationally comprehensible system for hazard communication;

Provide a legal framework for countries without an existing system;

Reduce the need for testing and evaluation of chemicals;

Facilitate international trade in chemicals whose hazards have been properly assessed and identified on an international basis

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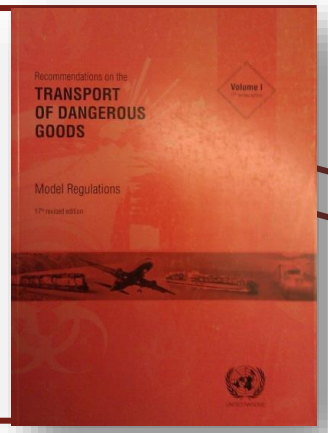
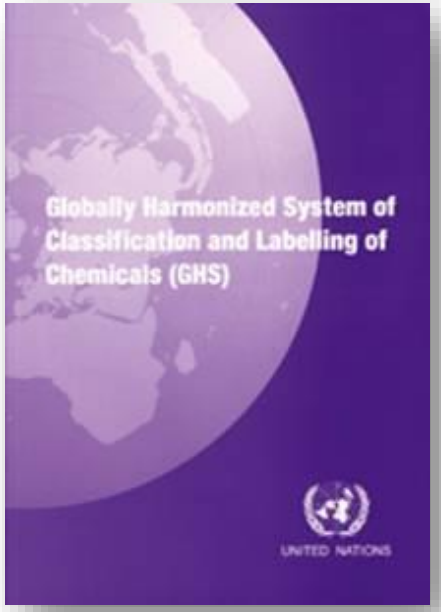
Main basis in the development of the GHS

UN Recommendations on Transport of Dangerous Goods (TDG)

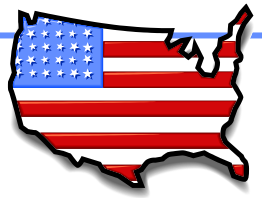


European Union directives for dangerous substances and preparations



First edition published 2003

Canadian requirements for workplace, consumers and pesticides



US requirements for workplace, consumers and pesticides

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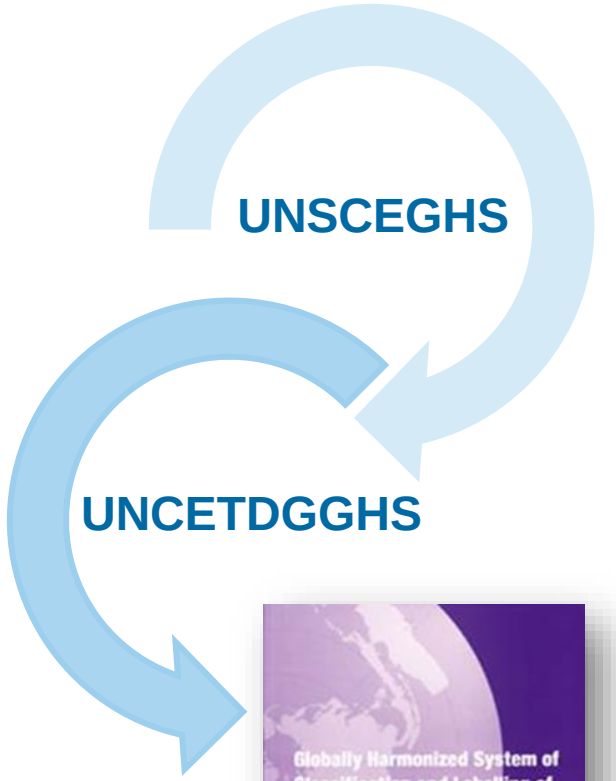
Updating the GHS

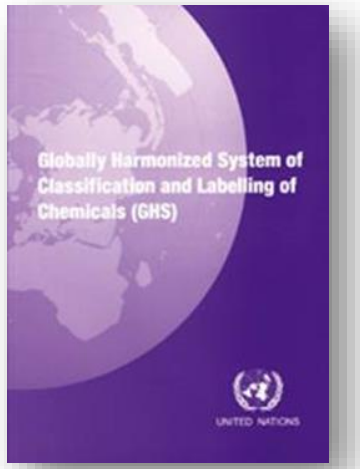
UN Sub-Committee of Experts on the GHS meets twice a year

The UN Committee of Experts on TDG and GHS meets every other year in order to adopt amendments

New edition every other year



Suggestions for amendments



GHS Rev.10 was adopted in 2022, and released in 2023

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Scope of the GHS

Harmonized criteria for classification of substances/mixtures

- Based on intrinsic properties (hazards)
- 3 types of hazards : physical, health, environment
- Nature of hazard provided by hazard class
  - 17 physical hazard classes
  - 10 hazardous to health classes
  - 2 hazardous to the environment classes
- Degree of hazard provided by the hazard category, e.g.:
  - Category 1: **Extremely** flammable liquids and vapours
  - Category 2: **Highly** flammable liquids and vapours
  - Category 3: Flammable liquids and vapours
  - Category 4: Combustible liquids

Scope of the GHS

- All hazardous chemicals
- All stages of life cycle
  - Manufacture
  - Transport
  - Storage
  - Distribution
  - Use
  - Disposal

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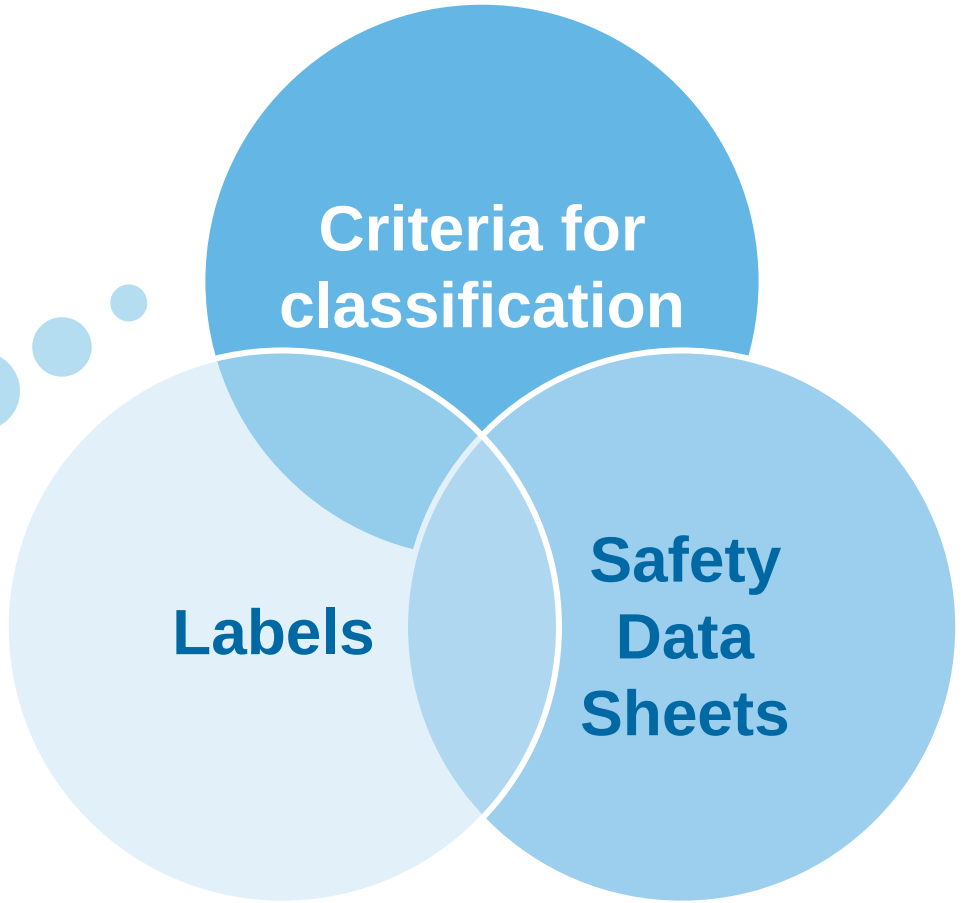
Elements of GHS

Hazard assessment

Is it hazardous? How hazardous is it?



How do you make people aware of the hazard?

Hazard communication

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Hazard information Example 1:
Acute toxicity

Higher

Severity

Lower

Classification			Labelling		
Hazard class	Hazard category		Pictogram	Signal word	Hazard statement
Acute toxicity	1	Oral		Danger	Fatal if swallowed
		Dermal			Fatal in contact with skin
		Inhalation			Fatal if inhaled
	2	Oral		Danger	Fatal if swallowed
		Dermal			Fatal in contact with skin
		Inhalation			Fatal if inhaled
	3	Oral		Danger	Toxic if swallowed
		Dermal			Toxic in contact with skin
		Inhalation			Toxic if inhaled
	4	Oral		Warning	Harmful if swallowed
		Dermal			Harmful in contact with skin
		Inhalation			Harmful if inhaled
	5	Oral	No pictogram	Warning	May be harmful if swallowed
		Dermal			May be harmful in contact with skin
		Inhalation			May be harmful if inhaled

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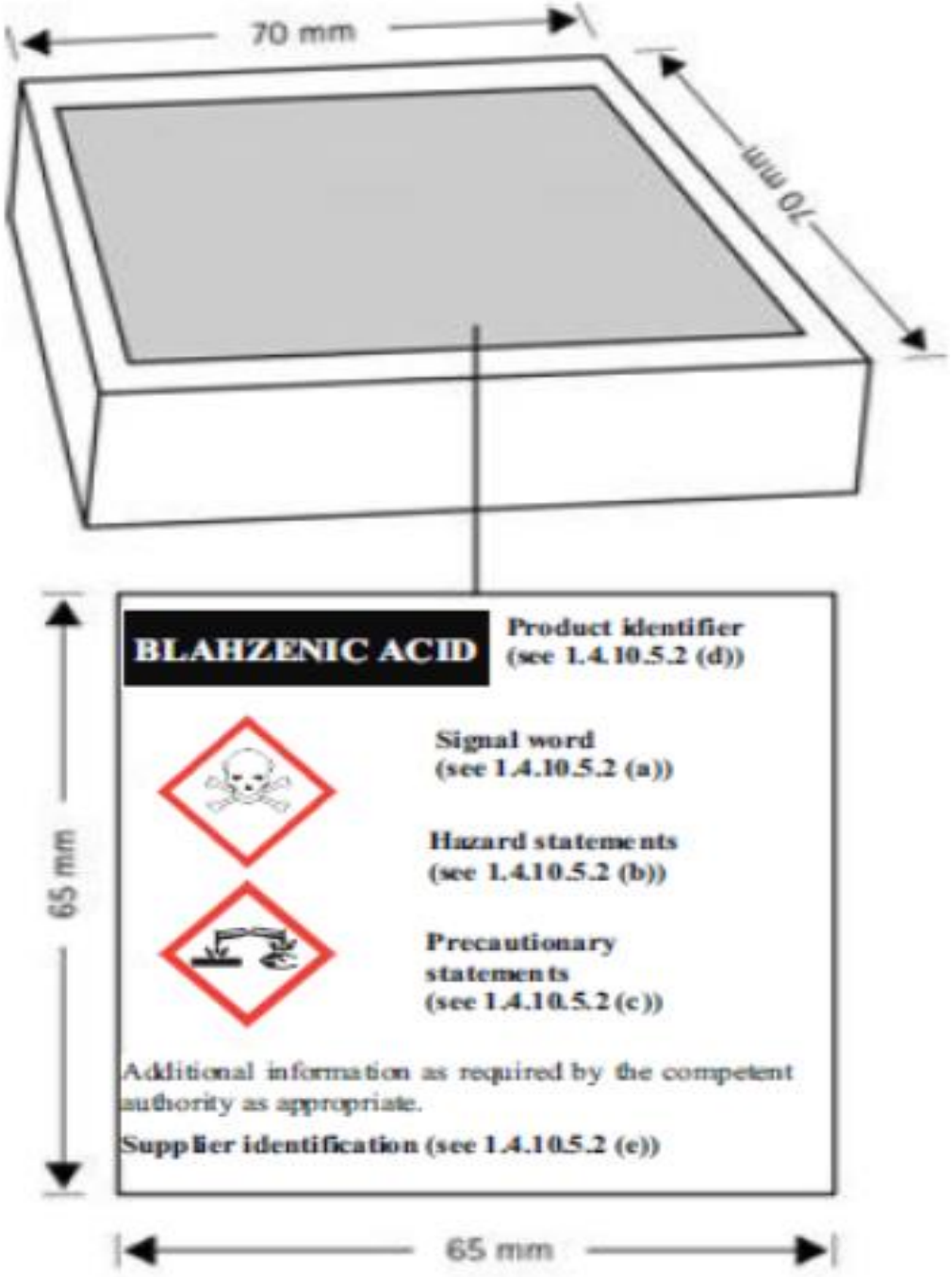
Labelling

- Outer Packaging (example)
  - All required GHS label elements (including hazard and precautionary statements) appear on the outside packaging
  - Example 8, Annex 7, GHS text

Section 1.4.10 describes labelling procedures



Safety Data Sheets (SDS)

1. Identification
2. Hazard identification
3. Composition/information on ingredients
4. First-aid measures
5. Fire-fighting measures
6. Accidental release measures
7. Handling and storage
8. Exposure controls/personal protection
9. Physical and chemical properties
10. Stability and reactivity
11. Toxicological information
12. Ecological information
13. Disposal considerations
14. Transport information
15. Regulatory information
16. Other information

Section 2: Hazard identification

2.1 Classification of the substance or mixture

- Type and severity of hazard

2.2 Label elements

- Pictogram
- Signal word
- Hazard statement(s)
- Precautionary statement(s)

2.3 Other hazards that do not result in classification

- *The section should include a brief and easily understood summary/conclusion of the data behind the classification*

Example:

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 (CLP)

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
2.6	Flammable liquid	2	Flam. Liq. 2	H225
3.3	Serious eye damage/eye irritation	2	Eye Irrit. 2	H319
3.8D	Specific target organ toxicity - single exposure (narcotic effects, drowsiness)	3	STOT SE 3	H336

Supplemental hazard information

Code	Supplemental hazard information
EUH066	repeated exposure may cause skin dryness or cracking

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

The product is combustible and can be ignited by potential ignition sources.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word **Danger**

Pictograms

GHS02, GHS07

Hazard statements

H225 Highly flammable liquid and vapour
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness

Precautionary statements

Precautionary statements - prevention

P210 Keep away from heat, sparks, open flames, hot surfaces. No smoking

Precautionary statements - response

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Precautionary statements - storage

P403+P233 Store in a well-ventilated place. Keep container tightly closed

Supplemental hazard information

EUH066 Repeated exposure may cause skin dryness or cracking.

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UNITAR and the GHS

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UNITAR and the GHS

- Co-lead of the Global Partnership to Implement the GHS, with the ILO and OECD, and a range of coalition partners: Governments, regional organisations, private sector, trade unions, academics and NGOs;
- Activities for training and awareness raising, developing implementation strategies, and supporting the drafting and review of legislation

GHS PARTNERSHIP

International Labour Organization | OECD BETTER POLICIES FOR BETTER LIVES | unitar United Nations Institute for Training and Research

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UNITAR and the GHS

National Activities:

- Last 10-15 years, supported multiple countries in developing national implementation strategies
- Directed support for drafting of legislation (El Salvador, Peru and Tanzania)
- Planning to provide support to Benin, Georgia, Moldova, North Macedonia and Pakistan on GHS-related legislation

Regional Activities:

- Work in multiple regions, such as ASEAN, to develop regional approaches and coordination
- Work with UNEP and the Gulf Cooperation Council to update the 2002 guidelines for the management of chemicals; GHS and chemical accidents
- Work with UNEP (in an EU and ICCA financed project) in Kenya, Nigeria, Ghana and Cote d'Ivoire on the GHS, on e.g. legislation-focused workshops

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UNITAR and the GHS – national projects

National projects: Similar components

- Multi-sector and multi-stakeholder committees
  - Even if there is a lead ministry, important as many relevant stakeholders are present
    - Ministries of labour, trade unions, employer organisations
- Analysis of national situation – gaps and opportunities
- Development of an implementation roadmap and/or draft legislation to adopt the GHS
- Training and capacity building

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UNITAR and the GHS

Guidance in the IOMC toolbox:

- Developing a National GHS Implementation Strategy,

- Understanding the GHS: A Companion Guide to the Purple Book

https://iomctoolbox.org/

IOMC:

FAO, ILO, UNDP, UNEP, UNIDO, UNITAR, WHO, OECD, WB, BRS

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UNITAR and the GHS

E-Learning course: UNITAR has successfully run an online GHS course over the past 10 years; technical understanding of the GHS

- English, French and Spanish available, run twice a year, each March/April and September/October (https://www.unitar.org/event/event-pillars/planet)

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UNITAR and the GHS

A great deal of resources available for stakeholders to be benefiting from:

- Lessons-learned
- Implementation experience and know-how
- Guidance and advice
- Access to data and information (including knowing where to find it)

Making use of information that already exists can be significantly helpful in designing development activities

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UNITAR and the GHS

New resources available:

Key elements of an implementation roadmap (UNITAR)

Lessons-learned (UNITAR)

Legislation guidance (UNITAR)

The GHS and trade (UNITAR)

The GHS in the world of work (ILO)

Introduction to the GHS (4 presentations and 4 leaflets)

Introduction to the GHS (2 videos)

https://unitar.org/sustainable-development-goals/planet/our-portfolio/globally-harmonized-system-classification-and-labelling-chemicals

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TRAINING MATERIALS

These training materials have been produced with financial assistance from Sweden, through the Swedish Chemic official opinion of the Swedish Chemicals Agency.

These leaflets are part of a series of leaflets and presentations on the GHS with the following topics: 1) What is th Implementing GHS and available data on substance classification.
Please also have a look at the four presentations on the GHS for further details and explanations. We also recomn GHS.

- GHS_LEAFLET 1_WHAT IS THE GHS.PDF
- GHS_LEAFLET 2_HAZARD CLASSIFICATION.PDF
- GHS_LEAFLET 3_HAZARD COMMUNICATION.PDF
- GHS_LEAFLET 4_IMPLEMENTING THE GHS AND AVAILABLE DATA ON SUBSTANCE CL

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Please also have a look at the four leaflets on the GHS. We also recommend you have a look at the two short intro

- POWERPOINT PRESENTATIONS.ZIP

FILM 1 PART I

This short video (part I and part II) introduces the Globally Harmonized System of Classification and Labelling (GHS) and provides information about the origins and development of the GHS, purpose and benefits, elements of the GHS, the building block approach, and considerations and guidance when implementing the GHS.

FILM 1 PART II

Questions?

Thank you for your attention!

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For more information, please contact UNITAR

Globally Harmonized System of Classification and Labelling of Chemicals | UNITAR
https://www.unitar.org/sustainable-development-goals/planet/

or visit the GHS website

https://unece.org/about-ghs

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