Strategic approach to a modular chemicals management

Draft of May 2025

For discussion at the IOMC workshop "Strengthening National Chemicals Legislation and Institutional Capacities: a multi-stakeholder workshop to develop a GFC Implementation Programme" 22-23 June 2025

1 Introduction

Why should countries set up a chemicals management system?

[to be developed. Main points to cover:

Objective of setting up a chemicals management system

- Protect human health & Protect the environment; Promote innovation; Reduce technical barriers to trade;…

sub-objectives:

- know what is on your market,
- inform people along the distribution chain about hazards,
- protect proprietary rights…

reference OECD Brochure (OECD, 2020[1]) https://www.oecd.org/content/dam/oecd/en/topics/policy-issues/chemical-safety-and-biosafety/benefits-from-implementing-a-chemical-management-system.pdf

Objective of this document

[to be developed. Main points to cover:

- to outline a high-level view on the different modules that make up an effective chemicals management system, explain the relationships between the different modules;
- to outline a strategic approach to setting up a chemicals management system;
- to be read in relationship with the IOMC Toolbox for Decision-Making in Chemicals Management (Inter-Organisation Programme for the Sound Management of Chemicals (IOMC), 2024[2]), as most modules described in this document are covered by the IOMC Toolbox. It should be updated periodically with the further development of the IOMC Toolbox and experience gained;
- meant as a tool to operationalise the GFC Implementation Programme on Objective A "Legal frameworks, institutional mechanisms and capacities are in place to support and achieve the safe and sustainable management of chemicals throughout their life-cycle" and especially:
  - Target A1: "By 2030, Governments have adopted and are implementing and enforcing legal frameworks, and have established appropriate institutional capacity to prevent or, where prevention is not feasible, minimize adverse effects from chemicals and waste as appropriate for their national circumstances."

    Target A2: "By 2030, intergovernmental stakeholders develop guidelines to support the needs of interested Governments and relevant stakeholders to implement effective chemicals and waste management strategies, building on, among other things, updates of the Inter-

Organization Programme for the Sound Management of Chemicals toolbox for decision-making in chemicals management."

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

[other targets]

This is meant to be a high-level document. It cannot go into details.

Outstanding question: How do we deal with waste in this document?]

[The management of radioactive substances, pharmaceuticals, food additives …[others] are outside of the scope of this document]

2 The Modules

This chapter outlines the essential modules that make up an effective chemicals management system and as illustrated in Figure 1. It is largely based on the legal instruments developed by the OECD[1], ILO[2], UNECE[3], FAO[4], WHO[5] [and other IGOs] as well as the IOMC Toolbox for Decision-Making in Chemicals Management (Inter-Organisation Programme for the Sound Management of Chemicals (IOMC), 2024[2]).

Figure 1. Overview of the essential modules of an effective chemicals management system

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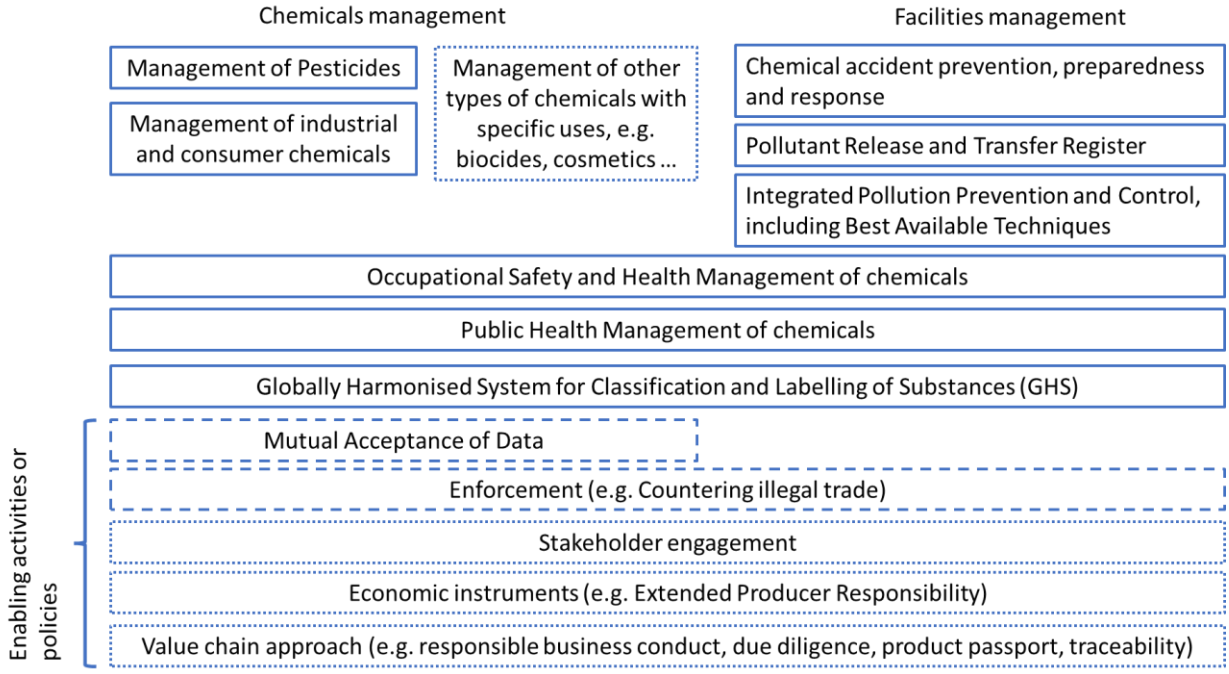

1 https://legalinstruments.oecd.org/en/instruments?mode=advanced&committeeIds=7744&dateType=adoption

2 Conventions and protocols

3 About the GHS | UNECE Introduction to the Kyiv Protocol on Pollutant Release and Transfer Registers | UNECE

4 The International Code of Conduct on Pesticide Management | Pest and Pesticide Management | Food and Agriculture Organization of the United Nations | IPM and Pesticide Risk Reduction | Food and Agriculture Organization of the United Nations

5 International health regulations

1. Figure 1 distinguishes between "**chemicals management**", i.e. legislation which addresses individual chemicals or groups of chemicals to identify those for which additional specific risk management measures need to be implemented versus "**facilities management**", i.e. legislation which addresses the safe handling of chemicals at the industrial facilities that use them or which address the prevention of environmental pollution from those facilities.

2. Figure 1 also outlines a number of "**enabling activities or policies**" which contribute directly or indirectly to "chemicals management" and/or "facilities management".

[There is no specific module for waste management. We could say that all modules have to have a life-cycle approach that includes the waste stage, in line with the scope of the GFC]

3. For each module there is no "one size fits all" solution. For those modules which are covered by the IOMC Toolbox for Decision-making in Chemicals Management, three levels of implementation are proposed depending on the available resources in the country.

4. Table 1 below outlines the objectives of each module and briefly describes the obligations of different stakeholders.

Table 1. Objectives of different modules and obligations of stakeholders (to be completed)

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	Objectives	Obligations	References
Chemicals Management			
Management of pesticides			
Management of industrial and consumer chemicals	To assess the risks associated with industrial and consumer chemicals to the environment, consumers and workers throughout their lifecycle and to manage them accordingly. Industrial and consumer chemicals are defined as those chemicals which are not covered by existing national regulations addressing specific types of chemicals (such as pharmaceuticals or pesticides) or specific uses of chemicals (such as chemicals used in cosmetics). Contributes towards meeting Targets A1, B1	Vary between countries. Usually, authorities request information on the chemicals on the market from producers and importers, perform priority setting, request additional information on priority chemicals, perform risk assessments and implement risk management measures if necessary.	(Inter-Organisation Programme for the Sound Management of Chemicals (IOMC), 2024[2])
Management of other types of chemicals with specific uses, e.g. biocides, cosmetics…			
Occupational Safety and Health Management of Chemicals			
Public Health Management of Chemicals			
Globally Harmonised System for Classification and Labelling (GHS)	To identify the intrinsic hazards found in substances and mixtures and to convey hazard information about these hazards to workers and consumers. Contributes towards meeting Target B6	Vary between countries implementing the GHS. Usually, companies putting substances and mixtures on the market gather information on the properties of substances and classify and label the substances and mixtures accordingly. In some countries, authorities develop recommended or mandatory harmonized classifications for a list of substances.	(United Nations, 2023[3])
Facilities Management			
Chemical Accident Prevention, Preparedness and Response	To minimize the likelihood that an accident will occur. To mitigate consequences of accidents through emergency planning, land use planning and risk communication. To limit the adverse consequences to health, the environment and property in the event of an accident. To learn from the experience of accidents in order to reduce	? Summarise golden rules?	(International Labour Organisation, 1993[4]) (United Nations Economic Comission for Europe, 2015[5]) (OECD, 2023[6]) (OECD, 2023[7])

	Objectives	Obligations	References
	future accidents. Contributes towards meeting Target A1, A3		
Pollutant Release and Transfer Registers			
Integrated Pollution Prevention and Control, including permitting based on Best Available Techniques			
Enabling activities or policies			
Mutual Acceptance of Data	To ensure data generated on the properties of chemicals are of high quality and can be used for regulatory decision-making. To avoid duplicative testing of non-clinical safety studies done on chemicals. Implements the concept of "tested once, accepted everywhere". To save resources for companies and authorities. Contributes towards meeting Target B4	The OECD system of Mutual Acceptance of Data requires that testing be carried out using OECD standards for test methods (OECD Test Guidelines) and for data quality and integrity (OECD Principles of Good Laboratory Practice – GLP). Adherents establish GLP monitoring authorities that inspect laboratories generating non-clinical safety data. Note: Pharmaceuticals are usually excluded from the OECD System of Mutual Acceptance of Data and are covered by the International Council for Harmonisation of Technical Requirements for Pharmaceuticals for Human Use (ICH) [ICH Official web site : ICH]	(OECD, 1981[8]) (OECD, 1995[9])
Countering Illegal Trade			
Stakeholder engagement			
Economic instruments	To establish market signals that can influence the behaviour of producers and consumers.	Policies established by authorities in the form of taxes or subsidies. They can incorporate environmental costs and benefits into the budgets of businesses and households, by increasing (or decreasing) the price of a product or service. As such, they help internalise the use of natural resources or the emission of pollutants into firms' or households' decisions.	Policy Instruments for the Environment (PINE) Database | OECD
Value chain approach (e.g. responsible conduct, due diligence, product Passport, traceability)			

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3 Relationship between the different modules

In the figures below, examples of relationships between a number of modules are outlined, i.e., how they relate, how do they inform each other, what are possible synergies. While not all relationships are described, this section focuses on those relationships which can guide authorities in setting priorities when deciding to improve the chemicals management system of a country.

Figure 2. Example relationships between the GHS and a management system for industrial and consumer chemicals

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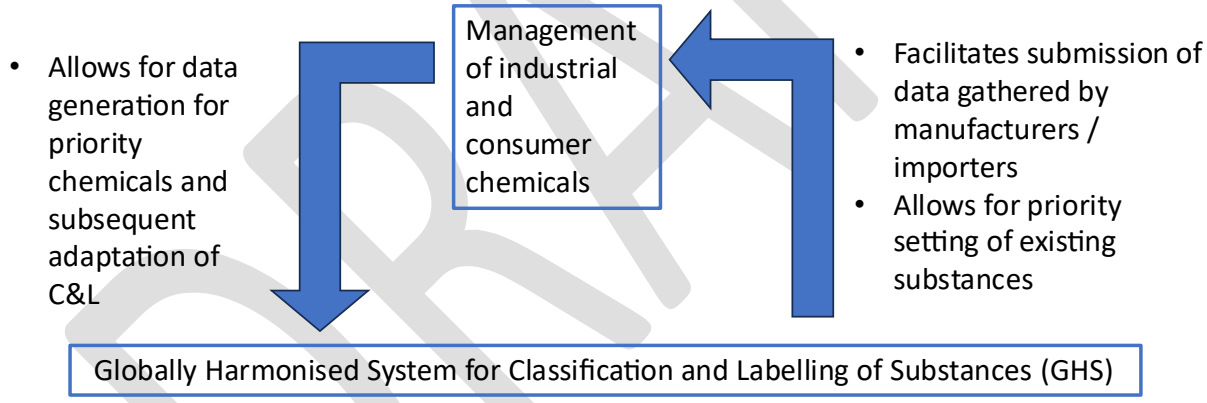

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Figure 3. Example relationships between a management system for industrial and consumer chemicals and an occupational safety and health system

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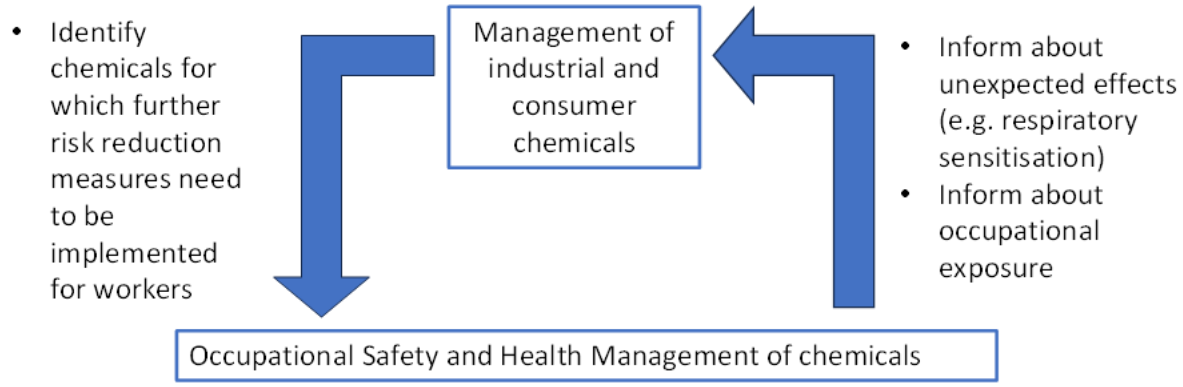

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Figure 4. Example relationships between the GHS and a management system for pesticides

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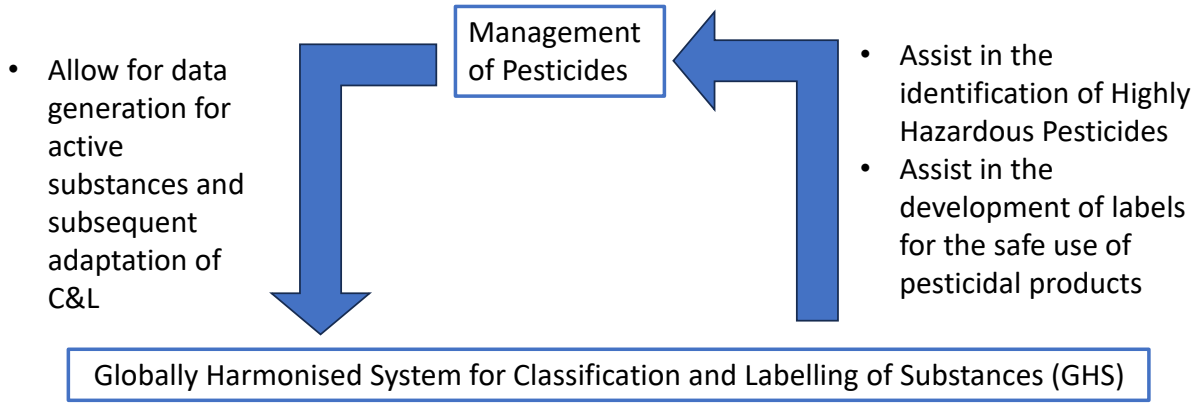

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Figure 5. Example relationships between the system of Mutual Acceptance of Data and legislations to manage specific types of chemicals

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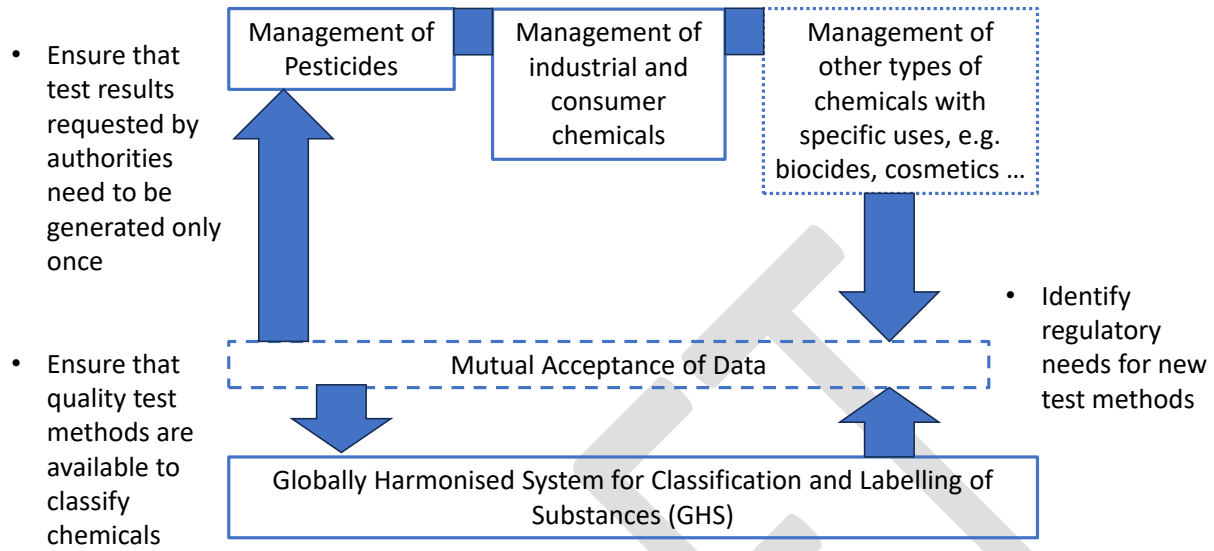

Note: It is not mandatory to use results from OECD Test Guidelines to classify chemicals according to the GHS, but the OECD Test Guidelines Programme ensures that quality test methods are available to generate the data necessary to classify chemicals according to the GHS. Pharmaceuticals are excluded from the OECD system of Mutual Acceptance of Data
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[other figures to be added]

4 Strategic approach towards setting up a chemicals management system

Each of the modules represented in Figure 1 and described in Table 1 address specific issues related to chemicals management. Most countries have already implemented several or even all of those modules (see for example the IOMC Indicators of Progress in Implementing SAICM[6]).

Countries that wish to improve their legislation and address certain issue that are not addressed yet, will need to decide which modules to implement and set priorities. National priorities will largely depend on the specific national situation, such as the types of chemicals predominantly produced or used, the number of workers potentially exposed to hazardous chemicals, the occurrence of chemical accidents and many other national conditions.

Nevertheless some considerations for setting priorities for improving a national chemicals management system can be provided:

- Addressing the main impacts of chemicals
  - Pesticides
  - An industrial and consumer chemicals management system would allow for the regulation of chemicals that have significant welfare costs (e.g. lead, cadmium, CMRs in consumer products).
  - Chemical accident prevention (reduction of the number of fatalities, increase of worker safety)
- Implementing the modules that have the most influence on the function of other modules
  - A national GHS system facilitates the functioning of many other modules (…)
  - OSH increases the safety culture in companies and informs the management of specific types of chemicals (pesticides, industrial and consumer chemicals, biocides etc…). Through a better safety culture in companies, it also decreases the risks of chemical accidents.

[6] IOMC indicators of progress in implementing SAICM

5 References

International Labour Organisation (1993), *Prevention of Major Industrial Accidents Convention (No. 174)*, https://normlex.ilo.org/dyn/nrmlx_en/f?p=NORMLEXPUB:55:0::NO::P55_TYPE,P55_LANG,P55_DOCUMENT,P55_NODE:CON,en,C174,/Document. [4]

Inter-Organisation Programme for the Sound Management of Chemicals (IOMC) (2024), *IOMC Toolbox for Decision Making in Chemicals Management*, http://www.iomctoolbox.org (accessed on December 2024). [2]

OECD (2023), *Decision-Recommendation of the Council concerning Chemical Accident Prevention, Preparedness and Response, OECD/LEGAL/0490*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0490 (accessed on 2025 January). [6]

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OECD (1995), *Decision-Recommendation of the Council on Compliance with Principles of Good Laboratory Practice OECD/LEGAL/0252*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0252 (accessed on December 2024). [9]

OECD (1981), *Decision of the Council concerning the Mutual Acceptance of Data in the Assessment of Chemicals OECD/LEGAL/0194*, https://legalinstruments.oecd.org/en/instruments/OECD-LEGAL-0194. [8]

United Nations (2023), *Globally Harmonized System of Classification and Labelling of Chemicals (GHS), Tenth revised edition*, United Nations, https://unece.org/sites/default/files/2023-07/GHS%20Rev10e.pdf. [3]

United Nations Economic Comission for Europe (2015), *Convention on the Transboundary Effects of Industrial Accidents*, United Nations, https://unece.org/DAM/env/documents/2017/TEIA/Publication/ECE_CP_TEIA_33_final_Convention_publication_March_2017.pdf. [5]

Annex A. Short guidance for self-assessment

[this part to be based on the strategic approach above]

[Maybe it could be done in the form of simple checklists for each module?]