

Overview of the Globally Harmonized System for Labelling (GHS)

What is the GHS?

The Globally Harmonized System of Classification and Labeling of Chemicals. The GHS i.e. Purple Book is a system for standardizing and harmonizing the classification and labeling of chemicals. It is a comprehensive approach to:

- Defining health, physical and environmental hazards of chemicals;
- Creating classification processes that use available data on chemicals for comparison with the defined hazard criteria; and
- Communicating hazard information, as well as protective measures, on labels and Safety Data Sheets (SDS).

How is the GHS to be applied?

The GHS Classification and Communication elements are the foundation of programs to ensure the safe use of chemicals. The first two steps in any program to ensure the safe use of chemicals are to identify intrinsic hazard(s) (i.e., classification) and then to communicate that information. The design of the GHS communication elements reflect the different needs of various target audiences, such as workers and consumers. Some existing national programs also include risk management systems as part of an overall program on the sound management of chemicals. The general goal of these systems is to minimize exposure, resulting in reduced risk. The systems vary in focus and include activities such as establishing exposure limits, recommending exposure monitoring methods and creating engineering controls. However, the target audiences of such systems are generally limited to workplace settings. With or without formal risk management systems, the GHS is designed to promote the safe use of chemicals.

Regulatory authorities in countries adopting the GHS will thus take the agreed criteria and provisions, and implement them through their own regulatory process and procedures rather than simply incorporating the text of the GHS into their national requirements. The GHS Document thus provides countries with the regulatory building blocks to develop or modify existing national programs that address classification of hazards and transmittal of information about those hazards and associated protective measures. This helps to ensure the safe use of chemicals as they move through the product life cycle from “cradle to grave.”

What is meant by GHS Building Blocks?

The GHS classification and communication requirements can be thought of as a collection of building blocks. In regulatory schemes, coverage and communication of hazards vary by the needs of target audiences/sectors. Accordingly, the GHS was designed to contain the hazard endpoints and communication tools necessary for application to known regulatory schemes.

The GHS is structured so that the appropriate elements for classification and communication, which address the target audiences, can be selected. The full range of harmonized elements is available to everyone, and should be used if a country or organization chooses to cover a certain effect when it adopts the GHS. The full range of these elements does not have to be adopted. Countries can determine which of the building blocks will be applied in different parts of their systems (consumer, workplace, transport, pesticides, etc.). For example, some options for implementing the GHS include: • Not using a GHS class (e.g., cancer, hazardous to the aquatic environment, etc.); • Not using a GHS category (normally at the beginning or end of a class, e.g., Acute Toxicity Cat. 5); • Combining categories (e.g., Acute Toxicity Cat.# 1 and Cat.# 2; Skin Corrosion Cat.1A, 1B and 1C).

Are all chemicals covered by the GHS?

The GHS covers all hazardous chemicals. There are no complete exemptions from the scope of the GHS for a particular type of chemical or product. The term “chemical” is used broadly to include substances, products, mixtures, preparations, or any other terms that may be used by existing systems. The goal of the GHS is to identify the intrinsic hazards of chemical substances and mixtures and to convey hazard information about these hazards. The GHS is not intended to harmonize risk assessment procedures or risk management decisions.

How will GHS impact existing regulations?

Many countries already have regulatory systems in place for these types of requirements. These systems may be similar in content and approach, but their differences are significant enough to require multiple classifications, labels and safety data sheets for the same product when marketed in different countries, or even in the same country when parts of the life cycle are covered by different regulatory authorities. This leads to inconsistent protection for those potentially exposed to the chemicals, as well as creating extensive regulatory burdens on companies producing chemicals.

When a regulatory scheme covers something that is in the GHS, and implements the GHS, that coverage should be consistent. Once an endpoint and subclasses are selected, as needed, the GHS classification criteria, assigned label elements and SDS provisions should be followed as specified in the GHS. If a regulatory system covers carcinogenicity, for example, it should follow the harmonized classification scheme, the harmonized label elements and, where appropriate, the SDS.

However, the specific hazard criteria, classification processes, label elements and SDS requirements within an existing regulation will need to be modified to be consistent with the harmonized elements of the GHS. It is anticipated that ALL existing hazard communication systems will need to be changed in order to apply the GHS.

For example, in the U.S. EPA and OSHA would be expected to require hazard pictograms/symbols on labels. Canada and the EU would be expected to adopt the GHS

pictograms/symbols instead of those currently in use. The transport sector is expected to adopt the changed criteria (LD50/LC50) for the GHS Acute Toxicity Categories 1 - 3. OSHA HCS, WHMIS and the EU would all need to change their acute toxicity criteria.

How will the GHS impact countries without existing regulations?

Developing and maintaining a classification and labeling system is not a simple task. The GHS can be used as a tool for developing national regulations. It is expected that countries that do not have systems will adopt GHS as their basic scheme. The GHS provides the building blocks from which countries can construct chemical safety programs. Although the GHS will facilitate the process, many challenges exist in creating new regulations. For example:

- What is the appropriate legal framework for adopting/implementing the GHS?
- What government agencies should be involved? Are there ministries/agencies ready to implement and maintain the GHS?
- How will stakeholder cooperation and support for implementing the GHS be managed?

Work has begun in international organizations under the guidance of the UN GHS Sub-Committee, to develop technical assistance for developing countries to write new regulations using the GHS elements. Guidance has been developed on how to implement a national GHS action plan. Additionally, pilot implementations have begun in a few countries. The opportunities and challenges learned from the pilot programs will be documented and are expected to facilitate future implementations.