

5.2: Global Regulatory Toxicology

Learning Objectives

- 1: Define what is meant by “global regulatory toxicology”
- 2: Give an example of a global regulatory guideline

What is Global Regulatory Toxicology?

Global regulatory toxicology is exactly as it sounds, it deals with regulatory toxicology on a global scale (i.e., the entire planet). Relative to other jurisdictions (e.g., nations, states, cities), there are few regulatory toxicology initiatives that are global in nature. Some initiatives (e.g., clean drinking water, clean air) with similar intent may span many parts of the globe and appear global, but they lack a global consensus.

Global regulatory toxicology initiatives often originate from activities by the [United Nations \(UN\)](#), a global organization bringing together member countries to confront common challenges.

Example of Global Regulatory Toxicology: Globally Harmonized System (GHS)

Full name is the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). It was created by the UN. Work on GHS began in 1992 and the first edition was released in 2003. GHS is updated every two years. The goal is to harmonize the criteria by which chemicals are classified in terms of their hazards. Hazards include physical (e.g., flammability), environmental (e.g., toxicity to fish), and human health (e.g., acute toxicity people).

Example of GHS classification – Hazards to the Eye					
Category	Hazard	Hazard statement	Requirement for eye protection?	Signal Word	Symbol
1	Irreversible effects	Causes serious eye damage.	Yes	DANGER!	
2A	Reversible effects	Causes serious eye irritation.	Yes	WARNING!	
2B	Reversible effects	Causes eye irritation.	No	WARNING!	None
Not classified	None	None	No	None	None

Figure 5.2.1: The Globally Harmonized System (GHS)

The Globally Harmonized System (GHS)

Prior to Globally Harmonized System (GHS), each country had its own criteria for hazard classification, and some countries had multiple criteria. This provided challenges and confusion to the general public and other stakeholders. GHS is a guideline, not a regulation. However, once adopted by a country, GHS generally becomes a regulation.

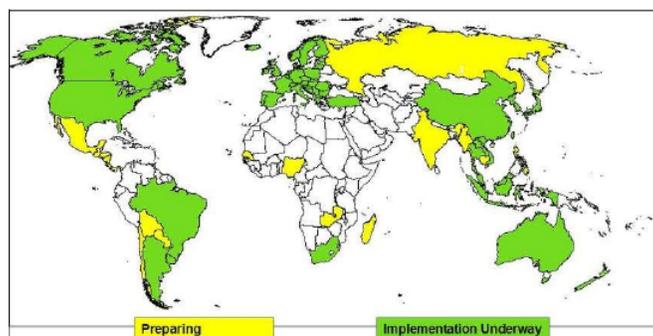


Figure 5.2.2: GHS Implementation Status – May, 2017

Topic 2: Key Points

In this section, we explored the following main points:

- 1: What is Global Regulatory Toxicology?
- 2: The Globally Harmonized System (GHS)

Knowledge Check

1. Which of the following generally is involved with establishing a global regulatory toxicology initiative?

Environmental Protection Agency (EPA)

United Nations (UN)

Food and Drug Administration (FDA)

All of the above

Answer

United Nations (UN)

2. Which of the following is an example of a global regulatory toxicology initiative?

Clean Air Act

Clean Water Act

Globally Harmonized System

Safe Drinking Water Act

Answer

Globally Harmonized System

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