GHS / HAZCOM

TAP LLC Hazard Communication

What is the GHS? (Global Harmonized System)

- **A common and coherent approach to defining and classifying hazards, and communicating information on labels and Safety Data Sheets (SDS)**
- **Target audiences include workers, consumers, transporters, and emergency responders**
- **Provides for the underlying infrastructure for establishment of comprehensive chemical safety programs**

Why is the GHS needed?

- **No country has the ability to identify and specifically regulate every hazardous chemical product. For example, in the US, there are 650,000 such products.**
- **Adoption of requirements for information to accompany the product helps address protection needs.**
- **Many different countries have come to the same conclusion about using information dissemination as a regulatory means to address chemical hazards.**
- **While similar, they are different enough to require multiple labels and Safety Data Sheets for the same product for international trade**
- **Countries have different requirements for hazard definitions as well as information to be included on a label or Material Safety Data Sheet (MSDS)**
- **For example, a product may be considered flammable or toxic in one country, but not in another to which it is being shipped.**

Benefits of Harmonization:

Countries, international organizations, chemical producers, and users of chemicals all benefit.

- **Enhance protection of humans and the environment**
- **Facilitate international trade in chemicals**
- **Reduce the need for testing and evaluation**
- **Assist countries and international organizations to ensure the sound management of chemicals**

An international mandate to harmonize was adopted at the United Nations Conference on the environment in 1992 in Brazil.

It sought for a globally harmonized hazard classification and compatible labeling system, including MSDS and easily understandable symbols to be available if feasible by the year 2000.

Major Existing Systems

- **UN Transport Recommendations**
- **European Union (EU) Directives on Substance and Preparations**
- **Canadian Requirements for Workplace, Consumers, and Pesticides**
- **US Requirements for Workplace, Consumers, and Pesticieds**

Scope of the GHS

- **Covers all hazardous chemical substances, dilute solutions, and mixtures**
- **Pharmaceuticals, food additives, cosmetics, and pesticide residues in food will not be covered at the point of international intake, but will be covered where workers may be exposed, and in transport**

GHS elements:

Classification Criteria

- **Health and environmental hazards**
    1. **acute toxicity**
    2. **skin Corrosion / irritation**
    3. **eye damage / eye irritation**
    4. **respiratory or skin sensitization**
    5. **germ cell mutagenicity**
    6. **carcinogenity**
    7. **reproductive toxicity**
    8. **target organ system toxicity (single and repeated dose)**
    9. **hazards to aquatic environment**
- **Physical hazards**

(Definitions, test methods, and classification criteria for transport were used as a basis for the work since they were harmonized)

1. **Explosive**
2. **Flammability – gasses, aerosols, liquids, solids**
3. **Oxidizers – liquid, solid, gasses**
4. **Self-reactive pyrophoric – liquids, solids**
5. **Self-heating**
6. **Organic peroxides**
7. **Corrosive to metals**
8. **Gasses under pressure**
9. **Water activated flammable gasses**

- **Mixtures**

Hazard Communication

Comprehensibility – guiding principles:

- **Information should be conveyed in more than one way**

- **The comprehensibility of the components of the system should take account of existing studies and evidence gained from testing**
- **The phrases used to indicate the severity of the hazard should be consistent across different hazard types**
- **Labels**
    1. **The working group identified about 35 different types of information that are currently required on labels by different systems, so to harmonize, key elements needed to be identified**
    2. **Other harmonization may occur on other elements in time in particular for precautionary statements**

Key label elements

- **Product identifier**
- **Supplier identifier**
- **Chemical identity**
- **Hazard pictograms ***
- **Signal words***
- **Hazard statements***
- **Precautionary information***
  ***standardized**

Pictogram Shape and Color

- **For transport, pictograms will have the background and symbol colors currently used**
- **For other sectors, pictograms will have a black symbol on a white background with a red diamond frame. A black frame may be used for shipments within one country.**
- **Where transport pictograms appear, the GHS pictogram for the same hazard should not appear**

Typical Transport and GHS pictograms appear next page

Transport Pictograms

GHS Pictograms

Signal Words DANGER or WARNING are used to emphasize hazard and discriminate between levels of hazard

Hazard Statements

- **A single harmonized hazard statement for each level of hazard within each hazard class**

  Example: Flammable liquids

  Category 1: Extremely Flammable liquid and vapor

  Category 2: Highly flammable liquid and vapor

  Category 3: Flammable liquid and vapor

  Category 4: Combustible liquid

Precautionary Information

- **GHS label should include appropriate precautionary information**
- **The GHS document includes examples of precautionary statements which can be used**
- **The intent is to harmonize precautionary statements in the future**

Role of the Safety Data Sheet (SDS) in the GHS

- **The SDS should provide comprehensive information about a chemical substance or mixture**
- **Primary use is the workplace**
- **Employers and workers use the SDS as a source of information about hazards and to obtain advice on safety precautions for employees**

GHS is now in use officially by TAP LLC. The Material Safety Data Sheet (MSDS) previously used will be replaced with Safety Data Sheet (SDS) under the new system. Look for more information about GHS and hazard communication in the future.