



*The GHS:*

*The Globally Harmonized System  
for Hazard Classification and  
Labelling*



Health  
Canada

Santé  
Canada

Canada

# *What is the GHS?*

- **A common and coherent approach to defining and classifying hazards, and communicating information on labels and safety data sheets.**
- **Provides the underlying infrastructure for establishment of comprehensive national chemical health and safety programs.**



## *International Mandate*

- **1992 UNCED Agreement (Rio Earth Summit), endorsed by the UN General Assembly:**

*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.*

*(Programme Area B, Chapter 19, Agenda 21).*

- **The GHS is one of the successes of the Rio Earth Summit.**

# ***Benefits of Harmonization***

- **Countries, international organizations, chemical producers and users of chemicals all benefit.**
  - ***Enhance protection of humans and environment.***
  - ***Facilitate international trade in chemicals.***
  - ***Reduce need for duplicate testing and evaluation.***
  - ***Assist countries and international organizations to ensure the sound management of chemicals.***



# *Major Existing Systems*

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



# *Principles Of Harmonization*

- All types of chemicals will be covered; will be based on intrinsic properties (hazards) of chemicals.
- Protections will not be reduced; comprehensibility will be key.
- All systems will have to be changed.





## *The Scope of the GHS*

- **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 intentional intake but will be covered where workers may be exposed and in transport.**



# *How the Canadian Position has been Developed*

- Through consensus
- Interdepartmental Committee includes: HC (PSP: WHMIS, consumer chemical products; foods; therapeutic products; vet drugs; PMRA) TC, HRDC, IC, DFAIT, NRC, EC, CFIA.
- WHMIS Harmonization Task Force
- Consumer Chemicals Harmonization Task Force





# *The GHS*

## **Hazard Classification**

- *Physical*
- *Health*
- *Environmental*

## **Hazard Communication**

- *Labelling*
- *Safety Data Sheets*



# *The GHS: Classification*

## **Physical Hazards:**

- Explosives
- Flammability
- Oxidizers
- Self-Reactive
- Pyrophoric
- Self-Heating
- Organic Peroxides
- Corrosive to Metals



# ***The GHS: Classification***

## **Health & Environmental Hazards:**

Acute Toxicity

Skin Corrosion/Irritation

Serious Eye Damage/Eye Irritation

Respiratory or Skin Sensitization

Germ Cell Mutagenicity

Carcinogenicity

Reproductive Toxicity

Target Organ Systemic Toxicity

– Single and Repeated Dose

Hazardous to the Aquatic Environment



# ***The GHS: Hazard Communication***

## **Key label elements:**

**Product identifier**

**Supplier identifier**

**Chemical identity**

**Hazard pictograms (standardized)**

**Signal words (standardized)**

**Hazard statements (standardized)**

**Precautionary information**



## ***Standardized Pictograms***

- **For transport, pictograms will have the background and symbol colours 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 a transport pictogram appears, the GHS pictogram for the same hazard should not appear.**



# Transport pictograms



# GHS pictograms



*The GHS: Label Elements*

## ***Standardized Signal Words***

**“Danger” or “Warning”**

- **Used to emphasize hazard and discriminate between levels of hazard**





## *The GHS: Label Elements*

# ***Standardized Hazard Statements***

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

### **Example: Flammable Liquids**

| Category | Hazard Statement                      |
|----------|---------------------------------------|
| 1        | Extremely flammable liquid and vapour |
| 2        | Highly flammable liquid and vapour    |
| 3        | Flammable liquid and vapour           |
| 4        | Combustible liquid                    |

# *The GHS: Safety Data Sheets*

- **SDS format – 16 Headings**
- **Similar to the ISO format which WHMIS allows**



# *The Status of the GHS*

- **The UN Economic and Social Council (ECOSOC) has international responsibility and oversight of the GHS.**
- **New parent committee responsible for GHS and TDG**
  - *Existing Subcommittee of Experts on TDG*
  - *New Subcommittee of Experts on the GHS*



## ***The Status of the GHS – cont.***

- **The parent committee approved the GHS at its Dec 2002 meeting.**
- **The UN Economic and Social Council endorsed the GHS in July 2003**
- **The GHS is now ready for implementation.**
- **There is international consensus that all countries should have the GHS fully operational by 2008.**



## *The Status of the GHS – cont*

- **The GHS will be a non-binding agreement, similar to the UN Recommendations for the Transport of Dangerous Goods.**
- **Countries and sectors within countries will decide whether and how to implement.**

*However...*





## ***The Status of the GHS – cont***

**Canada has been a leader in the development of the GHS.**



## ***The Status of the GHS - cont***

- **The GHS is a collection of building blocks with which to form a regulatory approach.**
  - ***Hazards covered by a sector/system should be consistent with GHS requirements.***
  - ***Not all systems will use all hazard classes, e.g., chronic hazards in transport.***





***Implementation Considerations  
– Key Sectors***

**Health Canada**

- **Consumer Chemical Products**
- **Pest Control Products**
- **Workplace Chemicals (WHMIS)**

**Transport Canada**

- **Transport of Dangerous Goods**





## ***Conclusion - cont***

- **The GHS will provide all countries with a structure to classify and label hazardous chemicals.**
- **It will facilitate both protection and trade by ensuring that consistent and coherent information is provided on all imported and exported chemicals worldwide.**
- **This information will form the basis of systems for the sound management of chemicals worldwide.**



## ***Conclusion - cont***

- **Development of the GHS has been a difficult and long-term process. The work that has been completed has required much discussion and compromise.**
- **It is expected that the system will be widely applied, and significant benefits to human health and the environment will be the result of that application.**





*For more information...*

[www.unece.org/trans/danger/publi/ghs/officialtext](http://www.unece.org/trans/danger/publi/ghs/officialtext)





***The GHS:***

***The Globally Harmonized  
System for Hazard  
Classification and Labelling***



Health  
Canada

Santé  
Canada

Canada