



# Global Safety Language

## Introduction

We live in a global society. Very little of what we purchase in our local stores is produced exclusively in PEI or even in Canada. Countless companies are owned and operated with foreign investors. It is for this reason that the Canadian warning labeling system, known as Workplace Hazardous Materials Information System (WHMIS) is now aligned with the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). The use of pictures rather than words, is saving millions of people from injury and death.

## Historical Rationale

People often talk about English as a global business language. As the global language, all information regarding the contents, the method of storage and handling. Unfortunately, not everyone writes, reads, or speaks even in broken English. As you can imagine there were countless personal injuries and industrial accidents. This has been a major factor in countless industrial, transportation and consumer accidents worldwide.

One of the worst was the explosion and subsequent fire at the Union Carbide Plant, in Bhopal, India, in 1984. It is estimated that this tragedy released poisonous gas exposing more than a half million people. More than 3,700 died that day, and more than 8,000 died of gas-related illness.

With few labourers in various countries having a working knowledge of English, something needed to change to avoid other disasters. Human life is just too valuable to be lost in translation. GHS was established to ensure everyone is able to “read” the hazard labels. It has taken the better part of 30 years for GHS to be fully implemented across the globe. Now the global language is pictographs.

## Practical Rationale

Pictograms are graphic images that immediately show the hazard, as well as depict the consequences of not taking the necessary precautions. With a quick glance, you can see and understand that the product’s harmfulness.

Most pictograms are diamond shaped. There are different warning colours, with the most common being red (the most hazardous), and yellow (proceed with caution). In the center is a symbol that represents a potential hazard. Pictograms are assigned to specific hazard classes or categories.

## The primary pictograms for WHMIS classes and categories:



### Flame

This pictogram indicates flammable gases or chemically unstable gas

- Aerosols
- Flammable liquids and solids
- Pyrophoric liquids and solids
- Self-heating substances and mixtures
- Substances and mixtures when combined with water emit flammable gases
- Self-reactive substances and mixtures
- Organic peroxides
- Chemicals under pressure



### Flame over Circle

This pictogram is used for the following classes and categories:

- Oxidizing gases (vapors become flammable)
- Oxidizing liquids (bleaching powder and solutions)
- Oxidizing solids (iron turns to rust)  
(when it combines with oxygen and loses hydrogen to form another substance)



### Cylinder

The **gas cylinder** indicates

- Gases under pressure
- Chemicals under pressure



## Corrosion

The **corrosion** pictogram is used for the following classes and categories:

- Corrosive to metals
- Skin corrosion/irritation
- Serious eye damage/eye irritation



## Explosion

The **exploding bomb** pictogram is used for the following classes and categories:

- Self-reactive substances and mixtures
- Organic peroxides



## Skull & Crossbones

The **skull and crossbones** pictogram is used for the following classes and categories:

- Acute toxicity regardless of the mode
  - A) Oral
  - B) Dermal
  - C) Inhalation



## Health Hazard Pictogram

The **health hazard** pictogram is used for the following classes and categories:

- Respiratory or skin sensitization (Respiratory sensitizer)
- Germ cell mutagenicity
- Carcinogenicity

- Reproductive toxicity
- Specific Target Organ Toxicity – Single exposure
- Specific Target Organ Toxicity – Repeated exposure
- Aspiration hazard



### **Biohazardous Infectious Materials Pictogram**

The **Biohazardous Infectious Materials** pictogram is used for the following classes and categories:

- Biohazardous Infectious Materials



### **Dead Tree & Fish**

The **Environmental Toxicity** pictogram is used for the following:

- Acute hazards to the aquatic environment
- Chronic hazards to the aquatic environment
- If it harms humans, it will also harm the environment.
- Long term effect of the land contamination



### **Exclamation Mark**

The **Exclamation Mark** pictogram indicates the material/s or situation may cause less serious health effects or damage the ozone layer.

**There are many other signs.**

A product can be considered a controlled product under WHMIS, as well as a consumer product. The difference is the intended use. A “consumer product” is available to the public at retail outlets and packaged as a consumer product (sold in quantiles and containers normally used by the consuming public.)

## QUIZ

**WHMIS is:**

- A – World Humor Medicine in Society
- B – World Hazardous Materials Index Safety
- C – Workplace Health Medical Information Symbols
- D – Workplace Hazardous Materials Information System

**WHMIS – Which of the following is true**

- A – Contains pictograms to show there is a hazard present
- B – Developed after death of countless workers and citizens in India
- C – Is followed throughout the world
- D – Has been amended to embrace all of Globally Harmonized System

**Which of the following is true for the “Exclamation” Symbol**

- A – not sure, maybe a problem
- B – causes health effect
- C – damages the ozone layer
- D – WHMIS alert

**Which of the following is true for the “Environmental” symbol**











- A – revives trees from the dead
- B – kills plants including old growth trees
- C – contaminates the water
- D – Causes fish to swim upside down

**Which of the following is true for the “Explosion” symbol**

- A – unexploded ordnances
- B – fireworks
- C – no yelling permitted
- D – can be caused by compressed fumes escaping

**Which of the following is true about these symbols: (1) Flame (2) Flame Over Circle**

- A – (1) one fire not as hot
- B – (1) ignited with oxygen, (2) oxygen is the fuel to keep it going
- C – (1) oxidization changes the chemical though may not burn (2) will always cause a fire
- D – not necessary to know the difference as both cause fire

	<b>Exploding bomb</b> (for explosion or reactivity hazards)		<b>Flame</b> (for fire hazards)		<b>Flame over circle</b> (for oxidizing hazards)
	<b>Gas cylinder</b> (for gases under pressure)		<b>Corrosion</b> (for corrosive damage to metals, as well as skin, eyes)		<b>Skull and Crossbones</b> (can cause death or toxicity with short exposure to small amounts)
	<b>Health hazard</b> (may cause or suspected of causing serious health effects)		<b>Exclamation mark</b> (may cause less serious health effects or damage the ozone layer*)		<b>Environment*</b> (may cause damage to the aquatic environment)
	<b>Biohazardous Infectious Materials</b> (for organisms or toxins that can cause diseases in people or animals)				

\* The GHS system also defines an Environmental hazards group. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and Safety Data Sheets (SDSs). Including information about environmental hazards is allowed by WHMIS 2015.

**For more information:**

[https://www.ccohs.ca/oshanswers/chemicals/whmis\\_ghs/pictograms.html](https://www.ccohs.ca/oshanswers/chemicals/whmis_ghs/pictograms.html)