










Science Safety Symbols

Use with textbook pages xv and 97-101.

In 2015, Canada updated its method of identifying dangerous materials in the workplace. The new **Workplace Hazardous Materials Information System (WHMIS)** closely follows the United Nations' labelling system called the **Globally Harmonized System of Classification and Labelling of Chemicals (GHS)**. Each chemical also has a **Safety Data Sheet (SDS)** that gives more detailed information on how the chemical reacts, how it should be stored, and what to do if an accident occurs.

 Explosion (for explosion or reactivity hazards)	 Flame (for fire hazards)	 Flame over circle (for oxidizing hazards)
 Gas cylinder (for gases under pressure)	 Corrosion (for corrosive damage to metals, as well as skin and eyes)	 Skull and Crossbones (can cause death or toxicity with short exposure to small amounts)
 Health hazard (may cause or is suspected of causing serious health effects)	 Exclamation mark (may cause less serious health effects or damage the ozone layer)	 Biohazardous infectious materials (for organisms or toxins that can cause disease in people or animals)

Canada also uses the **Hazardous Household Products Symbols (HHPS)** for items you would use in your home such as hair spray, oven cleaner, and bleach. It was also updated and simplified from the old HHPS system.

The Borders



Dangerous Container
The border that looks like a traffic yield sign means that the container is dangerous.



Dangerous Product
The border that looks like a traffic stop sign means that the contents of the container are dangerous.

The Hazards



Explosive
This symbol means that the container can explode. If it is punctured or heated, pieces can cause serious injuries, especially to the eyes.



Corrosive
This symbol means that the product inside the container will burn the throat or stomach if swallowed and will burn skin or eyes on contact.

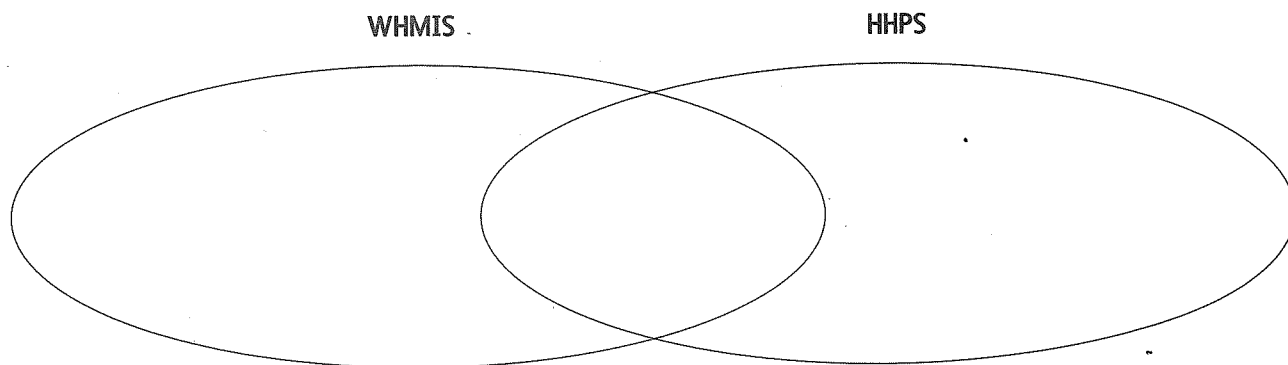


Flammable
This symbol means that the product will catch on fire easily if it is near sparks, flames, or even heat.



Poisonous
This symbol means that the product will cause illness or death if you eat or drink it. For some products, just smelling or licking them is enough to cause serious harm.

Draw a WHMIS and HHPS Venn Diagram to compare and contrast the two systems.



Safety Observations

Use with textbook pages xiv-xvii.

There are many safety problems in the science lab shown below. Highlight as many as you can.



Choose six of the problems you understand the best and number them 1 to 6 on the diagram. For each of the 6 problems, describe what the safety problem is, why it is a problem, and what should be done to fix it.

What is the Problem?	Why is it a Problem?	How to Fix the Problem
1.		
2.		
3.		
4.		
5.		
6.		

How Safe Am I?

Use with textbook pages xiv-xvii.

Each of the following situations could happen in a science classroom.

1. Someone sneezed just as your teacher was telling you about a lab chemical. You read the label, but it was old and partially worn off.

- a) Draw the WHMIS symbols that should be on the label.

Phenolphthalein solution

Avoid contact with eyes and lungs.
Will cause irritation of respiratory tract.
Reproductive toxin. If swallowed, contact doctor immediately. Flammable near an open flame.

- b) List all the safety equipment you should use.

- c) If you accidentally spill this chemical on your hand, what should you do?

2. Two classmates at your lab station are putting on lipstick and eye shadow.

- a) Is this a safety concern for the class? Explain.

- b) What should you do and why?

3. You arrive late to the lab and missed both the lab demonstration and safety talk. Your lab partner is absent and your science binder is in the art class. Since you were the last person to pick up equipment, you were left with two chipped beakers and a broken hot plate.

a) Are *you* a safety concern for the class? Explain.

b) What 2 things should you do immediately?

c) What 3 things should you do for future labs?

4. Hot water is about to boil over on your neighbour's hot plate.

a) Is this a safety concern for the class? Explain.

b) What should you do and why?
