



Chemical Safety

Read the Label!



There are chemicals in the products that we use every day: at school, at home, and at play. While some products may be beneficial to our health, others may pose a risk to our health and wellbeing. In Canada, there are laws and regulations on chemicals and products, to help protect us from harm. From pesticides to cosmetics, the Government works to assess and manage risks posed by chemicals in our lives.

When using any products at home or at school, such as cleaners, hand sanitizer, shampoo, body lotion, or craft supplies, it is important to read the label first. Reading labels and following instructions will help you know how to properly use, handle, store, and dispose of chemicals and products. By learning about chemicals in our lives and how to use them safely, we can lower the chance of improper exposure and harm.

Don't forget to read the label!

When you read product labels and follow instructions, you can prevent an injury and even help to save a life.



1. Always read labels and follow instructions on all chemical products.



2. Look for hazard symbols on the front of the product. If you don't already know what these symbols mean, learn them.



3. Use, store, and dispose chemical products carefully (especially around children and pets).



4. Before using household chemicals make sure you have all the correct safety gear and supplies you need.

Want more information on chemical safety and your health?

- Household Chemical Safety (Health Canada) - [English](#) / [French](#)
- Look up Chemicals and Pollutants (Health Canada) - [English](#) / [French](#)
- Healthy Home (Health Canada) - [English](#) / [French](#)
- Tips to Protect Your Family From Chemicals and Pollutants (Health Canada) - [English](#) / [French](#)
- Use Pesticides Safely (Health Canada) - [English](#) / [French](#)
- Exposure and Health Effects of Chemicals (Health Canada) - [English](#) / [French](#)



Chemical Safety


Activities

Learning about chemical safety

Have students learn about chemical safety (e.g., reading labels, following instructions, washing hands after handling chemicals, proper storage and disposal, and learning about hazard symbols). Students can then conduct a chemical survey of items in their homes and classroom.

Subject Areas:

- Science
- Health & Physical Education

 **Before you begin:** To ensure the safety of students, adult supervision is highly recommended when reviewing labels of chemical products at home and school, in case of special handling or storage directions.

Part 1: Understanding hazard symbols

Hazard symbols are easily recognizable images that are designed to warn about hazardous or dangerous materials, such as chemicals or toxins. Hazard symbols appear with different pictures, borders, and additional information in order to specify the type of hazard and the level of threat. Hazard symbols are on the labels of many chemical products found at home and at school. Learning how to read hazard symbols is an important first step to ensuring chemical safety.

This section contains examples of hazard symbols found on the labels of many household chemical products in and around your home and garage, like cooking spray, cleaning products, paint and paint thinners, drain cleaners and windshield washer fluid.

1) As a class, review the three parts of hazard symbols by reviewing *Understanding Hazard Symbols Information Sheet* (see page 3):

- 1** The picture
- 2** The frame
- 3** The signal words underneath the image

2) Have students complete the *Learning About Hazard Symbols Worksheet* (see page 4).





Chemical Safety

Understanding Hazard Symbols Information Sheet

1 Hazard symbol pictures:

The picture tells you the type of danger:



EXPLOSIVE: The container can explode if heated or punctured. Flying pieces of metal or plastic from the container can cause serious injury, especially to your eyes.



FLAMMABLE: The product or its fumes will catch fire easily if it is near heat, flames, or sparks. Rags used with this product may begin to burn on their own.



CORROSIVE: The product can burn your skin or eyes. If swallowed, it can damage your throat and stomach.



POISON: If you swallow, lick, or in some cases, breathe in the chemical, you could become very sick or die.

2 Hazard symbol frames:

The shape of the frame around the hazard symbol tells you what part of the product is dangerous:



TRIANGLE: means the **container** is dangerous.



OCTAGON: means the **contents** are dangerous.

3 Signal words:

The signal word(s) underneath the hazard symbol explain the degree of risk:



CAUTION: means temporary injury may result. Death may occur with extreme exposure.



DANGER: means may cause temporary or permanent injury, or death.



EXTREME DANGER: means exposure to very low amounts may cause death or serious injury.



Chemical Safety

Understanding Hazard Symbols Worksheet

1 Hazard symbol pictures

a) What does the hazard symbol picture tell you?

b) Connect each picture to the correct type of danger:

CORROSIVE

FLAMMABLE

POISON

EXPLOSIVE



2 Hazard symbol frames

a) What does the shape of the hazard symbol frame tell you?

b) Fill in the blank below:



If the hazard symbol frame is **a triangle**, it means...



If the hazard symbol frame is **an octagon**, it means...

3 Signal words

a) What do the signal word(s) underneath the hazard symbol explain?

b) Please add the definition to each signal word below:

CAUTION

DANGER

EXTREME DANGER



Chemical Safety

At Home and School

Part 2: Chemical safety at home and school

Classroom Chemical Survey

- 1 As a class, look around the classroom and review the label on various products that you can find (i.e., cleaning products, hand sanitizer, craft supplies). Use the *Classroom Chemical Survey* (see page 6) to answer the following questions:
 - What warning symbols do you see, if any? What do they mean?
 - What are the directions on how to use the product safely?
 - What are the storage instructions?
 - Are there any disposal instructions? If yes, what are they?
- 2 After completing the Classroom Chemical Survey, regroup as a class and answer the following questions:
 - Did anything you find surprise you?
 - What items had the most hazard symbols?
 - What did you learn?

Household Chemical Survey

- 3 Next, have students do a review of labels on four products found in their home (i.e., cleaning products, shampoo, body lotion). Ensure that parents/guardians are aware of the activity and support their child in this activity. Have students complete the Household Chemical Survey (see page 7) to answer the following questions:
 - What warning symbols do you see, if any? What do they mean?
 - What are the directions on how to use the product safely?
 - What are the storage instructions?
 - What are the disposal instructions?
- 4 After completing the Household Chemical Survey, have students regroup as a class to share their findings and answer the following questions:
 - Did anything you find surprise you?
 - What items had the most hazard symbols?
 - What did you learn?

Part 3: Extend the learning and raise awareness!

- 1 **Research!** Spend some time researching the topic of chemical safety to learn more about how to safely read, store, use, and dispose of chemicals.
- 2 **Share your learning!** Create posters, social media posts, and presentations about chemical safety to share with other students and classrooms in your school.

Created with support from Health Canada.



Chemical Safety

At Home and School

Classroom Chemical Survey

Name	Location	Hazard Symbols	Main instructions for proper use, storage, and disposal



Chemical Safety

At Home and School

Household Chemical Survey

Name	Location	Hazard Symbols	Main instructions for proper use, storage, and disposal

Household Chemical Survey

Name	Location	Hazard Symbols	Main instructions for proper use, storage, and disposal