

# CHEMICALS AND YOUR HEALTH

## What are chemicals?

Chemicals are the basic building blocks that make up all living and non-living things on Earth. Many chemicals occur naturally in the environment, and may be found in our air, water, food, and homes. Some chemicals are synthetic, and are used in every day products from medicines to computers to fabrics and fuels. Other chemicals are not made deliberately but are by-products of chemical processes.

Many chemicals are used to improve the quality of our lives and most are not harmful to the environment or human health. Some chemicals, however, have the potential to cause harm in certain amounts, and should only be used when the potential risks are appropriately managed.

## Are chemicals harmful to my health?

Most of the chemicals we encounter on a daily basis are not harmful to our health as long as we exercise caution. For example, by following instructions on household products we can greatly reduce our exposure to the chemicals they may contain.

In Canada, there are many laws and standards in place to protect us from the risks of potentially harmful chemicals. In most cases, levels of chemicals in the environment are well below those that are harmful. Under certain conditions however, some chemicals may pose a risk to human health. This depends on the type of chemical, the amount in question, the length of time a person is exposed to the chemical and when the exposure occurred, and the route of exposure (i.e., through food, water, air, etc.).

Some people may be more sensitive to chemical exposure as a result of their physiology, behaviour, geographical location or their living and working environments. These vulnerable populations may include children, pregnant women and seniors.

## How can harmful chemicals affect my health?

In some instances, exposure to certain chemicals can cause serious health problems. These effects can be classified as *short-term*, those occurring immediately after contact; and *long-term*, those which occur after an extended period of time. Short-term health effects usually occur because of an accident or an incorrect use of a product. Examples of short-term effects include burns and poisoning.



Long-term health effects are usually caused by exposure to harmful chemicals at much smaller doses over longer periods of time. These long-term effects can include cancer and effects on various organs of the body. Exposure to certain chemicals in early developmental stages, such as the fetus or infant, can lead to birth defects, and mental and physical developmental problems in children that can continue into adulthood.

## What can I do to protect my health?

Be aware of the possible environmental health risks that could be hidden in your home or surroundings and take action to lessen these risks. There are a number of precautions you can easily take to protect your health:

- opening your windows can refresh your indoor air, since some household items can release chemicals into the air;
- air out mattresses and other new furniture before use and when possible, look for low-emission products;
- if you live in an older neighbourhood that may still have lead in the water service lines, flush water through your taps for a short time before you use it to reduce possible lead exposure;
- make sure children only use non-toxic arts and crafts materials that are made for children;
- keep household chemicals in their original containers;
- store paints, varnishes and similar products outside, away from the house and in suitable containers;
- keep all chemical products and pesticides out of sight and out of reach of children and animals, and make sure child-resistant containers are working;
- use solvents in well-ventilated areas and never mix chemicals together as some mixtures can produce harmful gases.

Labels with hazard symbols and safety warnings give information you need to know to use the product safely. If there is anything in the label instructions that you do not understand, contact the manufacturer. By following the instructions for proper usage, storage and disposal, you can reduce the risk of harmful exposure. For more information, see the Health Canada Web site at:

[www.hc-sc.gc.ca](http://www.hc-sc.gc.ca)

## What is the Government doing to protect my health?

The Government of Canada plays a key role in protecting Canadians from exposure to harmful chemicals. In Canada, the manufacture, import and use of chemicals are regulated by a number of laws, including the *Canadian Environmental Protection Act, 1999*, the *Hazardous Products Act*, the *Food and Drugs Act*, and the *Pest Control Products Act*.

In 2006, the Government of Canada launched the Chemicals Management Plan (CMP) to further enhance its role in protecting Canadians and their environment from exposure to harmful chemicals. The CMP also provides funding for research and monitoring, so that we can better understand the effects of chemicals on human health.

On January 29, 2009, the Government tabled Bill C-6 – the *Canada Consumer Product Safety Act* (CCPSA). The proposed CCPSA is an important piece of legislation that would replace Part 1 of the *Hazardous Products Act* and modernize our safety system for consumer products by enhancing the federal government's ability to take action when consumer products pose a danger to human health or safety. The Healthy Canadians Web site ([www.healthycanadians.ca](http://www.healthycanadians.ca)) provides information to Canadians on these activities, as well as other health promotion initiatives.

The Government of Canada works closely with provinces and municipalities to help reduce the risks of harmful chemicals. In addition, because pollution does not stop at borders, the Government of Canada works with other countries to build a consistent international and regional approach to the safe management of chemicals.

## Where can I get more information?

For more information on the Chemicals Management Plan, including the list of chemicals being assessed, visit the Chemical Substances Web site at:

[www.chemicalsubstanceschimiques.gc.ca](http://www.chemicalsubstanceschimiques.gc.ca)

For information on food and consumer product recalls, as well as for general health information, visit the Healthy Canadians Web site at:

[www.healthycanadians.ca](http://www.healthycanadians.ca)

You can also find health information on many topics, including chemicals, on Health Canada's *It's Your Health* Web site at:

[www.hc-sc.gc.ca/hl-vs/iyh-vsv/index-eng.php](http://www.hc-sc.gc.ca/hl-vs/iyh-vsv/index-eng.php)