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# Carbon monoxide KILLS!



Protect yourself

# What is carbon monoxide?

Carbon monoxide is a toxic gas that causes a number of poisoning cases every year. Carbon monoxide poisoning can cause irreversible effects and can even be fatal.

Unlike many gases, carbon monoxide is colorless and odorless, and does not irritate the eyes or airways.

**Only a carbon monoxide detector can warn you of its presence.**



Protect yourself

## Where does carbon monoxide come from?

Equipment and vehicles that burn fuel like gas, diesel, wood, propane, natural gas, heating oil, naphtha, kerosene, or coal can produce carbon monoxide. If these vehicles or equipment are not working properly or are improperly used (in an unventilated area) or maintained, they may produce carbon monoxide levels that can endanger your health or even be fatal.

The following are a few examples of fuel-burning equipment and vehicles:

- Any nonelectric heating system: furnace, heater, stove, fireplace
- Vehicles with combustion engines: car, motorcycle, ATV, snowmobil
- Generators
- Gas-powered tools: chain saw, compressor, lawnmower, snow blower
- Gas or propane appliances: stove, refrigerator, clothes dryer, hot water heater
- Outdoor appliances: barbecue, lamp, camping stove





## What is carbon monoxide poisoning?

When inhaled in large quantities, carbon monoxide replaces oxygen in the blood, preventing the body's organs and tissues — especially the cardiovascular and nervous systems — from functioning normally.

**The severity of carbon monoxide poisoning depends on a number of factors:**

- Concentration of carbon monoxide in the air
- Length of exposure
- Individual state of health and susceptibility to the effects of carbon monoxide



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## What are the signs and symptoms of carbon monoxide poisoning?

A mild to moderate case of carbon monoxide poisoning produces symptoms similar to the flu or gastroenteritis — nausea, headache, and fatigue — especially in children. A more severe case of poisoning can rapidly lead to loss of consciousness and death within a matter of minutes.

Carbon monoxide poisoning can occur more rapidly in certain people:

- Pregnant women and their fetuses
- Newborns and children
- Seniors
- People with pulmonary, respiratory, or cardiovascular problems
- People suffering from anemia
- Smokers
- People engaged in intense physical activity in a poorly ventilated area contaminated with carbon monoxide

**Did you know?** People who are asleep or who have drunk alcohol can die from carbon monoxide poisoning before feeling any symptoms. You can avoid this by installing a carbon monoxide detector near the bedrooms in your home.

# Are you at risk for carbon monoxide poisoning?

**If one of these situations applies to you, you are at risk!**

Sometimes I run my car in my garage or carport.

In winter I often start my car before clearing the snow around it.

When the electricity goes off, I use my gas stove for heating and my propane camping equipment for cooking.

To make summer last longer, I sometimes use my barbecue inside my house, camper, or carport.

I sometimes start up the lawnmower in the shed.

I often forget to have the chimney of my wood stove or fireplace cleaned.

I like riding my ATV with my children sitting in the carryall.

I have a gas or oil-fired furnace.

When I arrive at a campsite, I set up my generator next to my motorhome.

**How to protect yourself from carbon monoxide poisoning?**

Never leave a gas-powered vehicle running in the garage or temporary shelter even if the door to the garage or shelter is open. Even running it intermittently can pose a health risk.

Before starting your engine in winter, clear away the snow around your vehicle and make sure nothing is obstructing the tail pipe.

Never use a gas stove for heating, even for a short period. Propane appliances intended for outside use (camping equipment) are not designed for use indoors.

A barbecue is not intended for use indoors or in an enclosed or poorly ventilated area.

Never run fuel-burning appliances in an enclosed or poorly ventilated space even for a short period of time (e.g., repeatedly running the motor for a few seconds at a time to test how the device is working).

Chimneys should be cleaned out every year in the spring or fall. Make sure your chimney is not blocked by a bird's nest or other debris, or by snow or ice.

Unlike snowmobiles, the exhaust pipe on ATVs is located in the rear of the vehicle, so people sitting in the carryall run a risk of carbon monoxide poisoning.

All fuel-burning heating systems should be regularly checked and maintained by a trained technician, preferably in the fall before the main heating season.

Install your generator outside, far from air inlets (windows, doors, ventilation systems) to prevent carbon monoxide from contaminating the air indoors.



**Did you know?** The best way to protect yourself from carbon monoxide is to periodically check that your fuel-burning equipment is running properly, and follow the maintenance and safety recommendations in the user manuals. Always use qualified technicians. For furnaces and heaters, follow the recommendations in *Guide de vérification du système de chauffage*, available at the following address: [www.msss.gouv.qc.ca/monoxyde-de-carbone](http://www.msss.gouv.qc.ca/monoxyde-de-carbone)



## Carbon Monoxide Detector

To make sure people are protected in time, the alarm on a carbon monoxide detector is designed to go off before carbon monoxide concentrations in the air are high enough to endanger human life or health.

A carbon monoxide detector is **the only means** of warning you of the presence of carbon monoxide in the home.

You can purchase a carbon monoxide detector at a hardware or big box store. Available models can have a single function (carbon monoxide detector) or combined function (carbon monoxide/smoke or carbon monoxide/natural gas/propane detectors). Prices vary from \$25 to \$70.

**A smoke detector does not detect carbon monoxide.**

**Your carbon monoxide detector should have the following features:**

- Certification logo
- Battery back up in case of a power outage
- Low battery warning indicator
- Indicator light that shows that the detector is working properly
- Alarm light and audible alarm signal to indicate the presence of high levels of carbon monoxide
- Test button to check if the detector is functioning properly
- Digital display showing carbon monoxide concentration if your home has a permanent source of carbon monoxide (e.g., combustion heating system).

**Did you know?** Even if your home is equipped with a carbon monoxide detector, your fuel-powered equipment should be well maintained and used properly. The carbon monoxide detector is considered as an effective additional tool to protect against carbon monoxide poisoning and death.

Be sure that there is **one of the three following certification logos** on the detector or its packaging:



The Canadian Standards Association (CSA) logo with the reference CSA 6.19-01.



The CSA logo indicating that the detector meets electric safety standards (electric shock and fire).



The Underwriters Laboratories of Canada (ULC) logo. You may also find this logo with the reference UL2034 on some U.S. brand detectors.



### Danger explosives!

The only situation in which carbon monoxide is produced in the absence of combustion, is during excavation work using explosives. If such work is being carried out near your house, carbon monoxide may enter your home through the basement, day or night, even a number of days after the work has been completed.

To avoid carbon monoxide poisoning during excavation work using explosives:

- Make sure there is a properly functioning carbon monoxide detector in the basement of your home. Test that you can hear the alarm from anywhere in the house.
- Make sure your house is well ventilated (two open windows to create air movement) the day blasting is carried out. If you have an air exchanger, it should be set on air exchange mode and should run continuously at maximum power for at least 48 hours.

# Installation

**Install your carbon monoxide detector near the bedrooms in your home so you will hear the alarm when you are asleep.**

It is better to install a detector on every floor of the house, including the basement if necessary (if there is a carbon monoxide source there) and near the door leading to the garage.

You can install a detector in other locations where combustion appliances, tools, or vehicles are used or run: workshop, shed, cottage, camper.



**Do not install the detector in the following locations:**

- **Inside the garage.** Carbon monoxide detectors currently available on the market are too sensitive and carbon monoxide levels rise too quickly in a garage, even when the door is open.
- **In an unventilated room** containing chemicals (paint solvent, paint strippers, chlorine) that could damage the detector.

**Did you know?** Your municipality may have regulations on the installation of carbon monoxide detectors in residential areas. Contact your municipality for information.

# Maintenance

**Read the user manual that came with your carbon monoxide detector for information on proper maintenance.**

Usually manufacturers make the following recommendations:

- Clean carbon monoxide detectors every six months by carefully vacuuming the detector's apertures using the soft brush attachment. Avoid touching the sensors with the vacuum cleaner's plastic nozzle.
- Regularly check the power supply or battery by testing the detector once a month.
- Replace the battery at the daylight savings time change in spring or fall.

The detectors have a limited lifespan and can eventually stop working properly. Some detectors currently on the market are covered by a five-year guarantee and the manufacturers recommend they be replaced seven years after installation.

**For your safety, replace the battery and the detector when recommended.**

## When the alarm sounds

When the alarm goes off, even if only intermittently, **it is an emergency.** It means that carbon monoxide has reached a level that can be dangerous. Check the back of this brochure for information on what to do.

# What to do in case of an emergency

It is an emergency when:

- The carbon monoxide alarm goes off, even intermittently
- People show signs or symptoms of carbon monoxide poisoning: headache, nausea, dizziness, weakness or an unexpected fall, loss of consciousness.

→ If anyone shows signs or symptoms, immediately evacuate the area and seek medical assistance.

→ If no one shows signs or symptoms, shut off the fuel supply, open doors and windows, and evacuate the building.

**Dial 9-1-1 or call Québec Poison Control Centre at 1-800-463-5060.**

Do not go back inside, even for a few minutes, before getting the all-clear signal from a firefighter or the public health authorities.

**For more information, visit [www.msss.gouv.qc.ca/monoxyde-de-carbone](http://www.msss.gouv.qc.ca/monoxyde-de-carbone)**

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