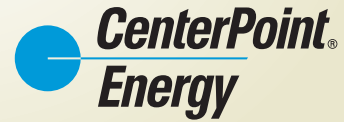


# What is carbon monoxide

Carbon monoxide (CO) is a poisonous gas that is colorless, odorless, tasteless and non-irritating. When breathed into the body, CO combines with blood and prevents it from absorbing oxygen. When this oxygen-deficient blood reaches the heart and brain, it can cause illness or death.

## State law requires CO alarms in Minnesota

Minnesota law requires all homes have a carbon monoxide alarm installed. The law requires CO detection devices to be installed within 10' of each lawfully used bedroom. For maximum safety, test your CO alarm regularly and change the batteries per manufacturer's instructions. Contact your local fire department for more information.



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## FOR YOUR SAFETY

The inside story on carbon monoxide



# WHAT CAUSES CARBON MONOXIDE (CO)?

Carbon monoxide (CO) usually is produced while burning fuels such as gasoline, coal, wood, charcoal, kerosene, natural gas, propane, heating oil, and almost any other combustible material like tobacco, fibers and paper. Additionally, any fuel-burning equipment or appliances, including wood stoves, fireplaces, space heaters, barbecue grills, furnaces, water heaters, boilers, and ranges have the potential to produce CO. There even is a greater risk of CO accumulation if your home is tightly sealed and not properly ventilated.

While smoke inhalation from fires is a common cause of CO poisoning, cigarette smoke and vehicle exhaust are the most common sources of CO exposure. If your home has an attached or tuck-under garage, air pollutants may flow from the garage into your home. If you operate a car or other combustion engine inside your garage, or if an air intake duct to your home is located next to a heavily traveled road or near a loading dock, it can cause CO buildup inside your home.

## Why does CO sometimes accumulate and not go up the chimney?

CO can be produced by appliances when they are improperly adjusted or poorly maintained. Soot or corrosion can affect the proper venting of combustion products. Homes that are inadequately ventilated or have large exhaust equipment can draw air in through the appliance or fireplace vents. This can cause combustion by-products, including CO, to accumulate inside your home. Normally, when adequate combustion air and ventilation air are available, and the appliance is properly installed and maintained, all gases and other products of combustion will be vented to the outdoors.

## What are CO poisoning symptoms?

There are several physical symptoms of CO poisoning which vary, depending on the amount of CO in the bloodstream. The higher the concentration in the bloodstream, the greater the danger (see symptoms chart to right).

Severity of the physical symptoms also will vary depending on a person's age, general health, level of physical activity and duration and concentration of exposure.

## What are other indicators of CO in the home?

Excessive humidity indicated by heavy moisture or frost on the inside of windows; soot on the ceilings and walls, front of a fireplace, or front panel of a furnace, and a peculiar, stale odor or burning eyes when appliances are operating.

## How is CO poisoning treated?

Treat with fresh air. Severe exposure requires medical attention.

## What do I do if I suspect CO in my home?

1. Open windows to ventilate the area.
2. Open the door of an attached garage.
3. Shut off the furnace and other fuel-burning appliances.
4. If you experience physical symptoms, get all persons and pets out of the premises and seek medical attention.
5. If you are a CenterPoint Energy customer, call our emergency phone number listed below. A company technician will check your natural gas appliances. If we do not find your appliances were producing CO at unsafe levels at the time we checked them, and you are still experiencing signs that CO is present, you should call the Minnesota Office of Energy Security at 651-296-5175. The department will refer you to organizations that can diagnose air flow problems.

## Carbon monoxide poisoning symptoms

### Mild exposure

- Slight headache
- Vomiting
- Blurred vision
- Fatigue
- Nausea
- Flu-like symptoms that disappear when the person breathes fresh air

### Medium exposure

- Drowsiness
- Severe headache
- Confusion
- Rapid heart rate

### Severe exposure

- Convulsions
- Unconsciousness
- Cardiac/respiratory failure
- Death

## How do I prevent CO in my home?

- Have a professional technician or heating dealer inspect all fuel-burning appliances annually.
- Make sure all fuel-burning appliances are properly vented, in good condition and are clear of debris and blockages. Visually inspect vents for rust, holes or gaps.
- Make sure all fuel-burning appliances show a clear blue flame. A yellow or orange flame may indicate a problem.
- Do not operate fuel-burning appliances in small, tightly-sealed areas.
- Make sure fresh air intakes to the home are not blocked or restricted.
- Install a CO alarm as an added measure of defense. Look for a device with an audible alarm and digital readout. Minnesota law requires CO alarms in all new construction, existing residential homes and multi-family units with natural gas furnaces.
- Make sure chimneys are clear of debris and blockages. Never leave a smoldering fire.
- Do not use a charcoal grill inside the home or garage, and do not store it in the garage until the coals are completely out.
- Do not heat a room with a gas range, oven or clothes dryer.
- Look for signs that the home is not receiving enough fresh air for moisture control and proper appliance operation.
- Do not leave a vehicle running in an attached garage, which can produce dangerous levels of CO that will gradually enter the home even if the garage door is left open. Pull the vehicle all the way out of the garage immediately after starting it and then close the garage door.

## If I smell gas, is that the same as CO?

No. Remember, CO has no smell. When you smell natural gas, you smell a non-toxic odorant added by CenterPoint Energy for safety reasons. Take the following steps if you smell natural gas:

- Leave immediately! Do not return until given permission by utility or emergency officials. Do not use electric switches, phones or anything that can cause a spark.
- Go to a safe location and call CenterPoint Energy - Emergency at the numbers below. Then call 911.
- Alert your neighbors.
- Leave all repairs to trained professionals. Do not try to repair the leak yourself.