carbon monoxide safety

DEPARTMENT OF HEALTH

Carbon Monoxide (CO)

Carbon monoxide (CO) is a poisonous gas that can kill you.

It is:

- colorless.
- odorless.
- tasteless.

When fuel is burned it creates carbon monoxide. These common fuels produce CO.

- Natural gas
- Propane
- Gasoline
- Wood

Dangerous concentrations of CO can build up indoors and cause illness or even death. An alarm can tell you there are dangerous levels of CO in your home.

The good news is that CO poisoning can be prevented with a working alarm.

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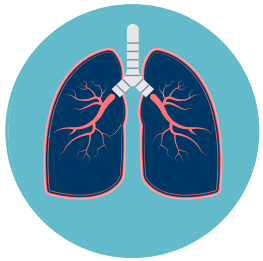
CARBON MONOXIDE POISONING

DIZZINESS

HEADACHE



SHORTNESS OF BREATH

CO is often called the “silent killer” because you can't see, smell, or taste it. Symptoms of CO poisoning are very similar to other illnesses, but with CO poisoning people and pets are sick at the same time. With an infection, like COVID or the flu, it will spread over time from person to person and pets will not be affected. Many people may ignore the early signs, thinking they have the flu. CO poisoning can lead to brain damage or death if the early signs are ignored.

— SIGNS AND SYMPTOMS

FATIGUE

NAUSEA AND VOMITING

CONFUSION

Signs that it is CO poisoning and not the flu:

- You feel better when you are away from home.
- Symptoms appear to get worse when using fuel-burning equipment.
- No fever or body aches.

Emergency Department (ED) Visits

In Minnesota

Each year, more than **340** people go to the ED for accidental CO poisoning.

CO Poisoning

Pregnant women, children, and babies are more vulnerable to CO poisoning.

CO Affects Pets Too

Gas stoves in residential homes

Across the United States, over one third of households use gas for cooking. Gas stoves emit carbon monoxide, along with nitrogen dioxide, methane, and particulate matter. These by-products of natural gas combustion contribute to poor indoor air quality. They may increase the risk of asthma exacerbations, wheezing, and trouble with breathing.

Reduce your risk when using a gas stove

- Use range hoods when cooking. Range hoods should be ducted to the outside to be effective.
- Cook on back burners. Range hoods are more effective ventilating emissions from the back burners.
- Open windows and doors.

Switching to electric

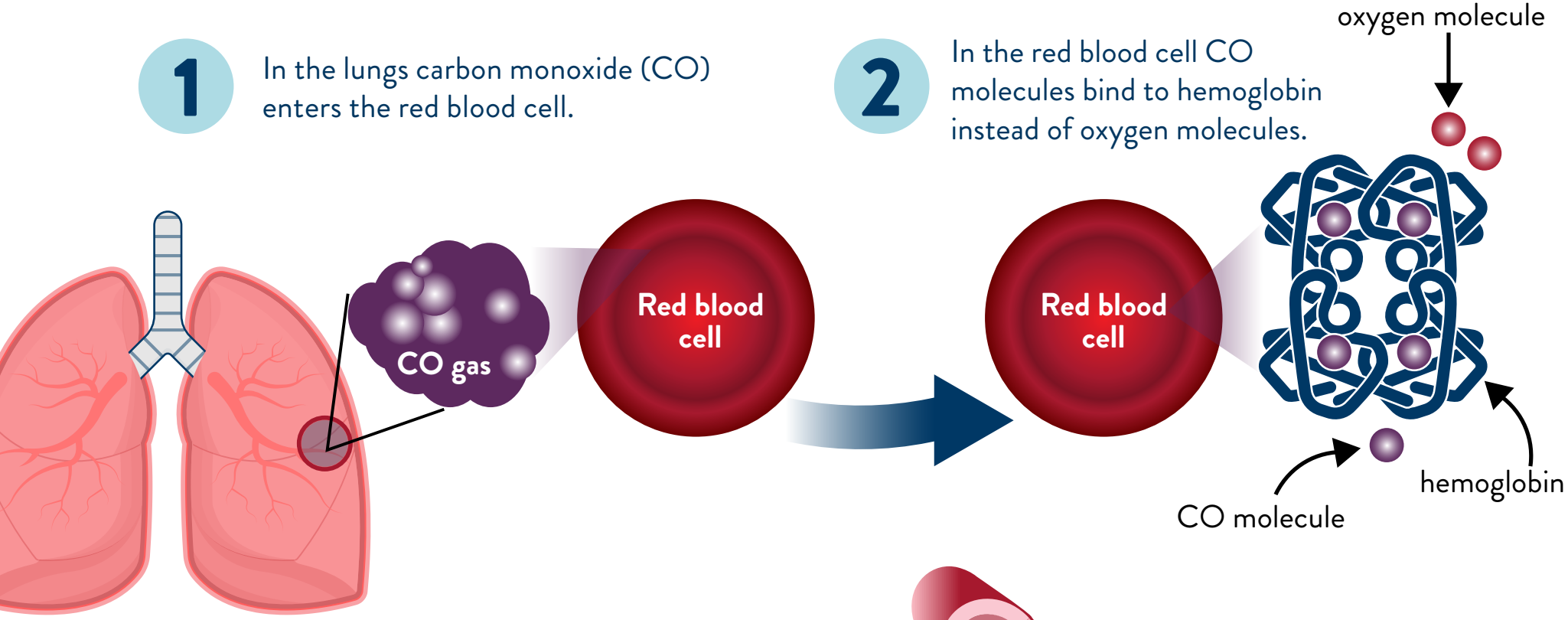
To help reduce indoor air pollutants including CO there is the option of switching out gas for electric. This includes stoves, ranges, and cooktops. Induction ranges may also be an option and offer similar performance to gas ranges.

CO POISONING

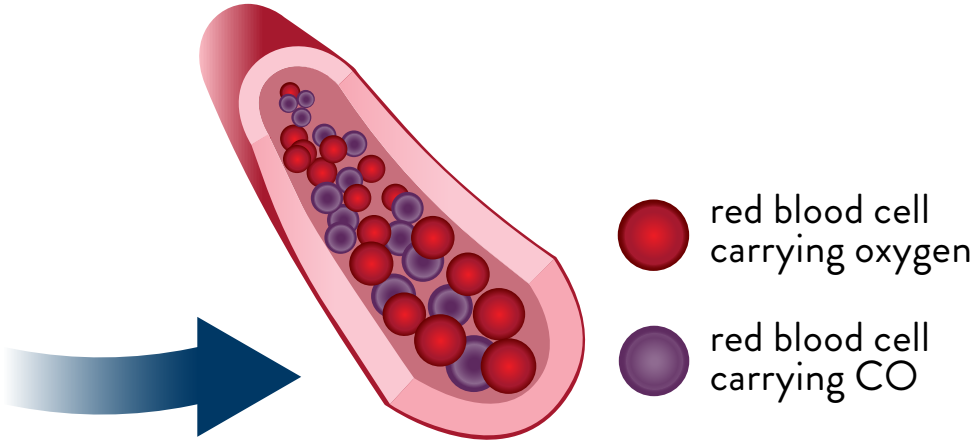
When carbon monoxide gas is breathed in organs such as the heart and the brain do not receive enough oxygen.

1 In the lungs carbon monoxide (CO) enters the red blood cell.

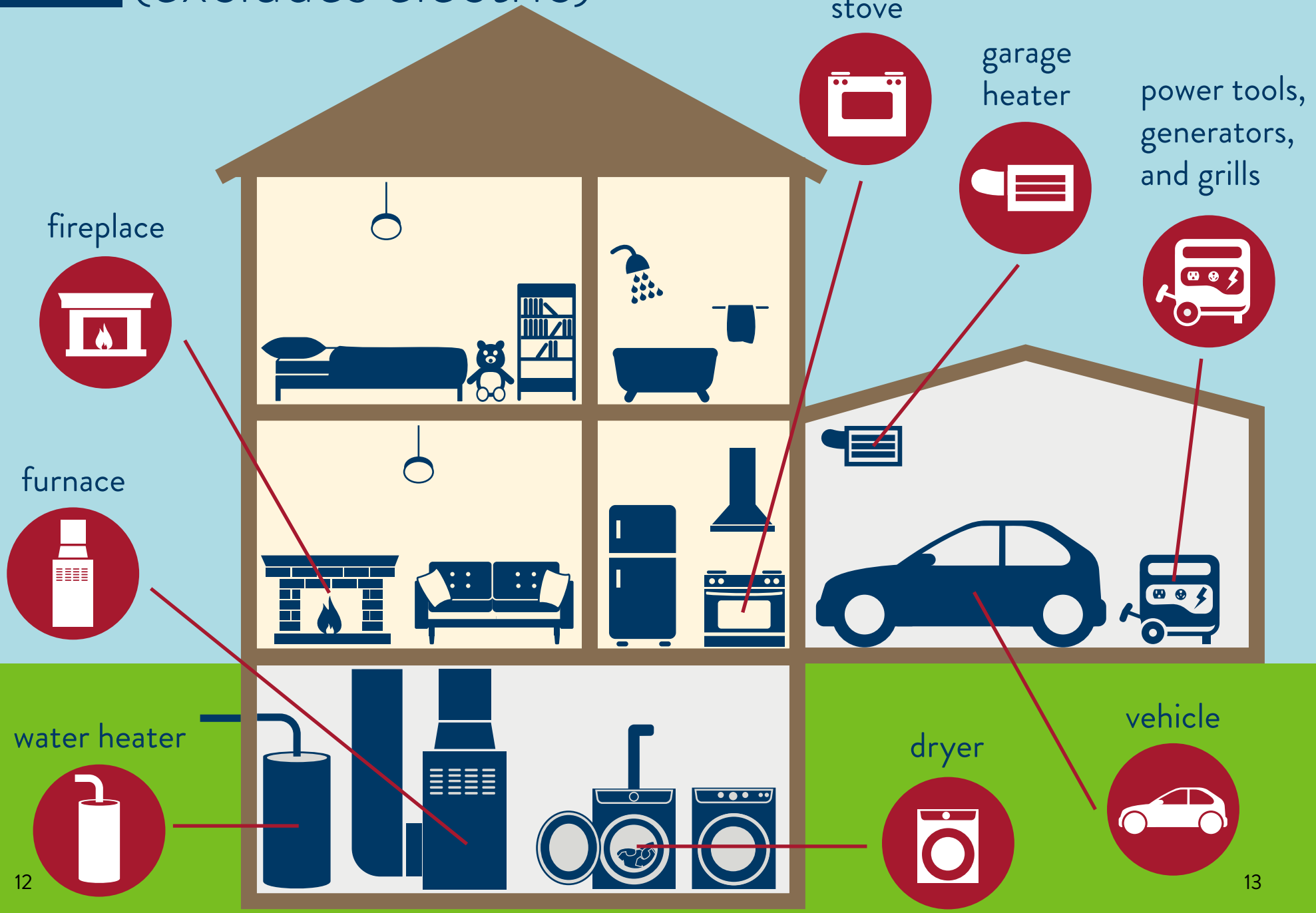
2 In the red blood cell CO molecules bind to hemoglobin instead of oxygen molecules.



3 Red blood cells transport more CO and less oxygen to vital organs including the heart and the brain. This leads to CO poisoning.

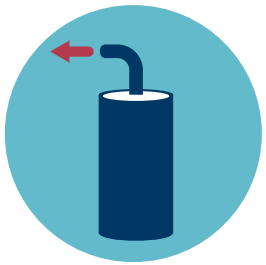


SOURCES OF CO
(excludes electric)



NON—ELECTRIC APPLIANCES — MOST NEED TO BE VENTED OUTSIDE

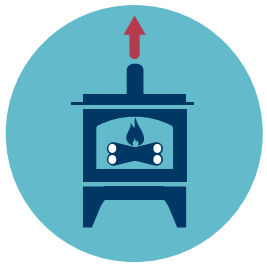
DRYERS



WATER HEATERS

FIREPLACES

FURNACES



WOOD STOVES

BOILERS

Signs appliances are not venting properly:

- Streaks of soot around appliances
- Melting plastic caps on the water heater
- No upward draft in the chimney
- Excess moisture and rust
- Orange or yellow flame in pilot light or gas burner (the flame should be blue)

If you see these signs there is a chance that dangerous concentrations of CO can build up in the home.

Make sure nothing is blocking the outside vents. This includes the snow.

Open ducts in the basement supply fresh air to water heaters and furnaces. If the home has one, don't tie them off or block them.

Recreation

Boats

- Be aware of where a boat motor exhausts.
- Tow passengers at least 20 feet away from the back of the boat.
- Boats equipped with a cabin are required to have a marine CO alarm.

Ice Fishing

- Regularly inspect heating equipment and make sure it is in good condition.
- Use a battery powered CO alarm and carry extra batteries.

Camping

- Camp stoves, grills, and fuel-burning lanterns are made for outdoor use. Never use them inside of a tent, RV, or cabin.

Garages

- Avoid idling your car in enclosed spaces.
- Avoid using fuel-burning tools indoors. Examples include pressure washers, leaf blowers, or concrete saws.
- Do not use charcoal or gas grills inside of closed garages.

Portable Generators

- Never place a portable generator indoors. They can produce a lot of exhaust.
- Keep generators away from windows and doors.
- Consider using a portable generator that automatically shuts off if high CO levels are detected.

CO Alarms

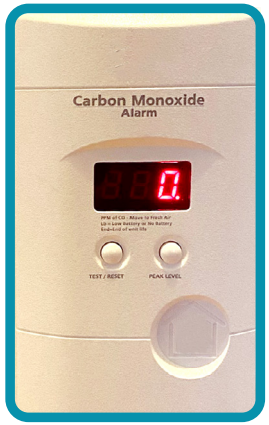
Under Minnesota law, every home is required to have at least one operating **CO alarm within 10 feet of every room used for sleeping.** The alarms can be hard-wired, battery powered, or plug-in devices. Make sure that alarms are UL listed and follow the package instructions for proper placement. Test your CO alarm routinely by pressing the test button.

CO alarms do not last forever

Most alarms need to be replaced every 5 to 7 years. Look at the owner's manual to see the recommended replacement schedule. Have extra batteries on hand in the home in case the CO alarm "chirps" notifying you the batteries are low. And remember to replace the batteries at least once a year.

If the CO alarm sounds:

- Go outside to fresh air.
- Make sure everyone is accounted for.
- If exhibiting symptoms of CO poisoning, call your local fire department or 9-1-1.
- If feeling fine, call your gas utility company.
- Do not reenter the home until safe.
- Identify the source of CO and make repairs.



Some CO alarms have a digital readout. The readout should always be 0. Any reading above 0 should be looked into.

Furnaces

CO poisonings occur more often in the winter months. One of the largest contributors are furnaces. Have your furnace checked by a qualified heating contractor once a year, this includes having an annual tune-up. Not only is this important to maintain your furnace, but the contractor will look for potential CO problems.

Indoor Air Unit
PO Box 64975
St Paul, MN 55164–0975
1-651-201-4601 or 1-800-798-9050
health.indoorair@state.mn.us

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