

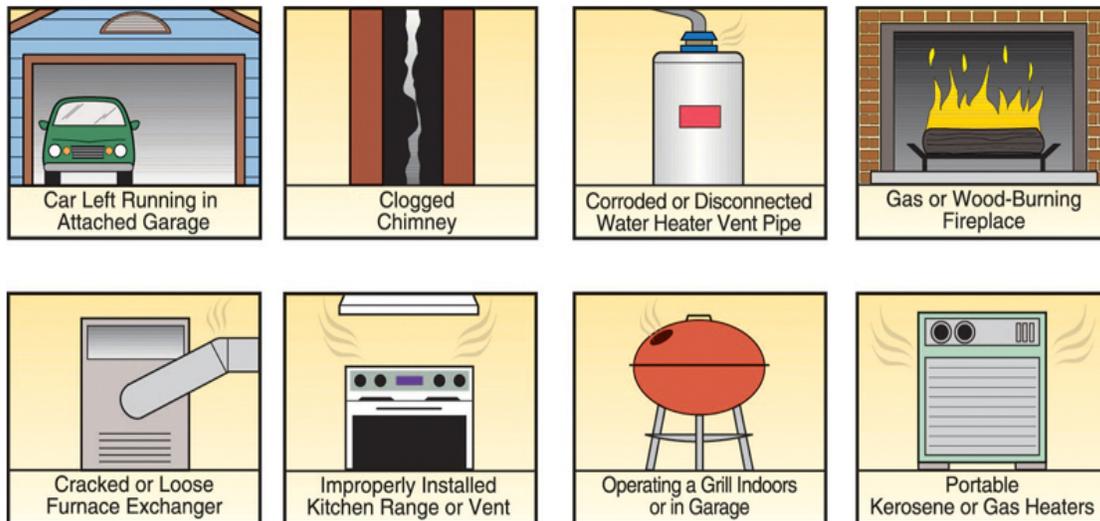


FREQUENTLY ASKED QUESTIONS ABOUT CARBON MONOXIDE

What is carbon monoxide?

Carbon monoxide (CO) is a poisonous, odorless, colorless, and tasteless gas. It is found in outdoor and indoor air. Carbon monoxide is produced when fuel such as natural gas, propane, gasoline, oil, kerosene, wood, or charcoal is burned. This gas is produced from both human-made and natural sources. Possible sources of carbon monoxide include heating systems, stoves, portable generators, fireplaces, furnaces, automobile exhaust, gasoline engines, and boats. Each year, nearly 400 Americans die from unintentional carbon monoxide poisoning (not linked to fires), and more than 4,000 are hospitalized in the United States. Carbon monoxide poisoning is the most common cause of poisoning deaths in the United States.

Possible Sources of Carbon Monoxide (if broken, improperly installed, or not vented)



(Image: bestforthehome.com)

What happens to carbon monoxide when it enters the environment?

When carbon monoxide enters the environment, it remains in the air for almost two months. It breaks down in the air and is converted into carbon dioxide. Microorganisms found in soil and water can change carbon monoxide to carbon dioxide. Carbon monoxide does not build up in animal tissues or plants.

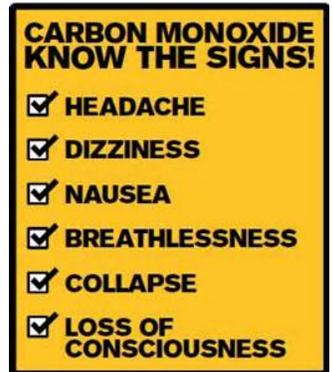
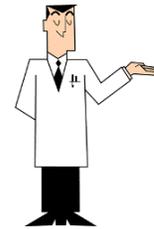
How might I be exposed to carbon monoxide?

Exposure to carbon monoxide can occur by breathing in the following:

- tobacco smoke;
- gas from broken or improperly vented stoves, fireplaces, furnaces, heating systems, and generators;
- gas from fuel-powered equipment such as lawn mowers, snow blowers, forklifts, and chain saws, (especially when used in confined areas);
- exhaust from recreational watercraft, boats, and automobiles

What are symptoms of carbon monoxide poisoning?

People can be exposed to unsafe levels of carbon monoxide and not have any symptoms. Common symptoms of carbon monoxide poisoning include headache, dizziness, difficulty breathing, weakness, vomiting, chest pain, confusion, and fatigue. Exposure to high levels or over a long period of time can cause suffocation, loss of consciousness, brain damage, or death. People who are more susceptible to carbon monoxide poisoning include the elderly, infants, children, smokers, and those with anemia, heart, or breathing problems.



Can carbon monoxide exposure cause cancer?

The Department of Health and Human Services (DHHS), the Environmental Protection Agency (EPA), and the International Agency for Research on Cancer (IARC) have not classified carbon monoxide as a human cancer-causing substance.

Is there a medical test to determine whether I have been exposed to carbon monoxide?

Carbon monoxide-oximeters are medical devices that can estimate how much carbon monoxide is in the blood.



How can I reduce exposure to carbon monoxide in my home and car?

- Install battery-powered carbon monoxide alarms and smoke detectors.
- Never use portable generators inside the home. Ensure it is at least 25 feet from the house.
- Schedule annual maintenance of heating systems and fuel-burning appliances to ensure proper ventilation.
- Install and use an exhaust fan over gas stoves.
- Never heat your home with a gas oven.
- Never burn fuels indoors except in stoves or furnaces that are made for safe use.
- Do not let your car run idle in the garage.
- Check the exhaust system of your car each year.



NEVER use a generator indoors, in garages, or carports.



ONLY use outdoors and far from open windows, doors, and vents.

- Consult an expert if you smell an odor from your gas refrigerator.
- Avoid smoking inside the home or car. (Carbon monoxide is a component of tobacco smoke).

How can I reduce exposure to carbon monoxide in the workplace?

- Install an effective ventilation system that will remove carbon monoxide.
- Maintain equipment and appliances that produce carbon monoxide.
- Discourage the use of gasoline-powered engines or in poorly ventilated areas.
- Regularly test areas where carbon monoxide may be present (e.g. small spaces).
- Install carbon monoxide alarms that can be easily heard.
- Use a full-face piece pressure-demand self-contained breathing apparatus (SCBA) certified by the National Institute for Occupational Safety and Health (NIOSH) in areas with high carbon monoxide levels.
- Use respirators in circumstances when carbon monoxide levels are not very high.



Self-contained breathing apparatus (SCBA)

Has the federal government made recommendations to protect human health?

The EPA has established an environmental limit of 10mg/m³ of carbon monoxide in air averaged over 8 hours and not to be exceeded more than once per year. The Occupational Safety and Health Administration (OSHA) has set a legal limit of 50 parts per million (ppm) for carbon monoxide in air for an 8-hour work day, and 40 hour work week.

What should I do if I suspect carbon monoxide poisoning?

If there is a poisoning emergency, call the National Poison Information Center number at (800) 222-1222. If the victim has collapsed or is not breathing, call 911 immediately. If you or the victim starts to feel sick or dizzy, get fresh air immediately. Remember that you cannot smell carbon monoxide. While symptoms of poisoning may increase, you may become less capable of making proper decisions.

Where can I obtain further information?

- Contact your healthcare provider if you have concerns about your health and carbon monoxide exposure.
- To report safety and health violations in the workplace, contact your nearest Virginia Occupational Safety and Health Administration (VOSH). (For a list of regional offices, click on http://www.doli.virginia.gov/contactinfo/phone_contact.html).
- For further questions about carbon monoxide, contact the Virginia Department of Health, Division of Environmental Epidemiology, 109 Governor Street, Richmond, VA 23219, call (804) 864-8182, or email toxicology@vdh.virginia.gov.

Prepared by: Division of Environmental Epidemiology
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