



# Exposing an Invisible Killer

A Factsheet on the Dangers of Carbon Monoxide

**E**ach year in America, unintentional carbon monoxide (CO) poisoning claims more than 400 lives and sends another 20,000 people to hospital emergency rooms for treatment.

The U. S. Fire Administration (USFA) and the National Association of Home Builders (NAHB) would like you to know that there are simple steps you can take to protect yourself from deadly carbon monoxide fumes.

## UNDERSTANDING THE RISK

### WHAT IS CARBON MONOXIDE?

Carbon monoxide is an odorless, colorless and toxic gas. Because it is impossible to see, taste or smell the toxic fumes, CO can kill you before you are aware it is in your home. At lower levels of exposure, CO causes mild effects that are often mistaken for the flu. These symptoms include headaches, dizziness, disorientation, nausea and fatigue. The effects of CO exposure can vary greatly from person to person depending on age, overall health and the concentration and length of exposure.

### WHERE DOES CARBON MONOXIDE COME FROM?

CO gas can come from several sources: gas-fired appliances, charcoal grills, wood-burning furnaces or fireplaces and motor vehicles.

### WHO IS AT RISK?

Everyone is at risk for CO poisoning. Medical experts believe that unborn babies, infants, children, senior citizens and people with heart or lung problems are at even greater risk for CO poisoning.

### WHAT ACTIONS DO I TAKE IF MY CARBON MONOXIDE ALARM GOES OFF?

What you need to do if your carbon monoxide alarm goes off depends on whether anyone is feeling ill or not.

### IF NO ONE IS FEELING ILL:

1. Silence the alarm.
2. Turn off all appliances and sources of combustion (i.e. furnace and fireplace).
3. Ventilate the house with fresh air by opening doors and windows.
4. Call a qualified professional to investigate the source of the possible CO buildup.

### IF ILLNESS IS A FACTOR:

1. Evacuate all occupants immediately.
2. Determine how many occupants are ill and determine their symptoms.
3. Call your local emergency number and when relaying information to the dispatcher, include the number of people feeling ill.
4. Do not re-enter the home without the approval of a fire department representative.
5. Call a qualified professional to repair the source of the CO.

### PROTECT YOURSELF AND YOUR FAMILY FROM CO POISONING

- Install at least one carbon monoxide alarm with an audible warning signal evaluated by a nationally recognized laboratory, such as Underwriters Laboratories (UL), near the sleeping areas and outside individual bedrooms. Carbon monoxide alarms measure levels of CO over time and are designed

to sound an alarm before an average, healthy adult would experience symptoms. It is very possible that you may not be experiencing symptoms when you hear the alarm. This does not mean that CO is not present.

- Have a qualified professional check all fuel burning appliances, furnaces, venting and chimney systems at least once a year.
- Never use your range or oven to help heat your home and never use a charcoal grill or hibachi in your home or garage.
- Never keep a car running in a garage. Even if the garage doors are open, normal circulation will not provide enough fresh air to reliably prevent a dangerous buildup of CO.
- When purchasing an existing home, have a qualified technician evaluate the integrity of the heating and cooking systems, as well as the sealed spaces between the garage and house. The presence of a carbon monoxide alarm in your home can save your life in the event of CO buildup.

### For more information contact:

The U. S. Fire Administration  
16825 South Seton Avenue  
Emmitsburg, MD 21727  
or  
Visit the USFA Web site:  
[www.usfa.fema.gov](http://www.usfa.fema.gov)



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### **Citizens Advisory on Carbon-Monoxide Detectors**

As a colorless, odorless, tasteless, and non-irritating gas, carbon monoxide (CO) is undetectable to the human senses. It is considered harmless at low concentrations, but CO is poisonous. Prolonged exposure to high concentrations can cause symptoms such as dizziness, headache, nausea, fatigue, burning eyes, vomiting or loss of muscle control. Very high concentrations can cause unconsciousness, brain damage, or death.

CO is a by-product of combustion. Wood, paper, charcoal, kerosene, gasoline, propane and natural gas all produce CO as they burn. It would be ideal to keep all combustion from the indoor environment, but that is not entirely possible or always practical. Where it is not possible to isolate combustion from the indoor environment, it is advisable to understand the operation of appliances necessary for heating and cooking, and to maintain them properly. Be aware products of combustion must exhaust to the outside, for all indoor fuel-burning appliances; and fresh air must be provided, from outside, for efficient combustion. An annual inspection of flues, chimneys, and combustion-air openings for all heating appliances; fireplaces and wood-burning stoves, is recommended at the start of heating season. Other exposures to avoid are: motor vehicles operating in a garage - even if the garage door is open; unvented cooking appliances: natural gas and propane ranges and ovens, and portable barbeques; and fuel-burning space heaters.

Although there are warning signs of potential indoor CO contamination, such as stale or stuffy air, excessive moisture on windows and walls, soot buildup around appliance vents, a yellow flame (rather than blue) in a natural gas appliance, or a pilot light that keeps going out, a CO detector can warn of undetectable health-threatening concentrations. **CO detectors are a supplemental security device, not a substitute for fuel-burning-equipment maintenance and good sense.** As with appliances, it is important to understand the operation of CO detectors. Available features and options vary, but select only those manufactured to ANSI/UL Standard 2034. Install them as recommended by the manufacturer, outside sleeping areas. The manufacturer's installation instructions will specify the proper location for each particular detector. Installation instructions include basics such as wall or ceiling mounting, but also other important considerations such as proximity to mechanical equipment or heating ducts. Once the detector is installed it must be maintained and replaced as recommended by the manufacturer, to remain effective. **CO detectors have a limited service life, which can be as little as 3 years.**

Additional information is available on line for detectors as well as preventing CO poisoning. CO detector technology has been constantly improving over the past few years, so be wary of dated information, particularly claims of unreliability. Unbiased and accurate information is available from:

Underwriter's Laboratories: [www.ul.com/consumers/co](http://www.ul.com/consumers/co)

U.S. Environmental Protection Agency: [www.epa.gov/iaq/co](http://www.epa.gov/iaq/co)

Consumer Product Safety Commission: [www.cpsc.gov/CPSCPUB/PUBS/466](http://www.cpsc.gov/CPSCPUB/PUBS/466)

Consumer Reports: [www.consumerreports.org/cro/home-garden/home-improvement/home-security/carbon-monoxide-alarms/co-alarms-905/overview/](http://www.consumerreports.org/cro/home-garden/home-improvement/home-security/carbon-monoxide-alarms/co-alarms-905/overview/)

Please contact the Town of Basalt Building Dept. (927- 4702) or the Basalt & Rural Fire Protection District (704-0627) with any questions.