



CARBON MONOXIDE

What is carbon monoxide (CO) and how is it produced in the home?

Carbon monoxide (CO) is a colorless, odorless, poisonous gas. It is produced by the incomplete burning of solid, liquid, and gaseous fuels. Appliances fueled with natural gas, liquefied petroleum (LP gas), oil, kerosene, coal, or wood may produce CO. Burning charcoal produces CO. Running cars produce CO.

What are the symptoms of CO poisoning?

When carbon monoxide is inhaled, it takes the place of oxygen in the red blood cells that normally carries oxygen to all parts of the body. Because carbon monoxide binds to red blood cells several hundred times more strongly than oxygen, its effects are cumulative and long-lasting, causing oxygen starvation throughout the body. The initial symptoms of CO poisoning are similar to the flu (but without the fever) the effects of carbon monoxide in parts per million are listed below:

- 035 ppm - Headache and dizziness within six to eight hours of constant exposure
- 100 ppm - Slight headache in two to three hours
- 200 ppm - Slight headache within two to three hours
- 400 ppm - Frontal headache within one to two hours
- 800 ppm - Dizziness, nausea, and convulsions within 45 minutes. Insensible within two hours.
- 1,600 ppm - Headache, dizziness, and nausea within 20 minutes. Death in less than two hours.
- 3,200 ppm - Headache, dizziness and nausea in five to ten minutes. Death within 30 minutes.
- 6,400 ppm - Headache and dizziness in one to two minutes. Death in less than 20 minutes.
- 12,800 ppm - Death in less than three minutes.

In some cases, the skin, mucous membranes, and nails of a person with CO poisoning are cherry red or bright pink. Because the color change doesn't always occur, it is an unreliable symptom to rely on for diagnosis.

How many people are unintentionally poisoned by CO?

Every year, over 200 people in the United States die from CO produced by fuel-burning appliances (furnaces, ranges, water heaters and space heaters). Others die from CO produced while burning charcoal inside a home, garage, vehicle or tent. Still others die from CO produced by cars left running in attached garages. Several thousand people go to hospital emergency rooms for treatment for CO poisoning.

What should you do to prevent CO poisoning?

Make sure heating systems and appliances are installed by a qualified contractor to assure that they are properly vented and meet local building codes

Have the heating system inspected and serviced annually. The inspector should also check chimneys and flues for blockages, corrosion, partial and complete disconnections, and loose connections.

Never use a gas range, oven or clothes dryer to heat a home.

Never burn charcoal inside a home.

Never use portable fuel-burning camping equipment inside a home

Never leave a car running in an attached garage, even with the garage door open.

Never operate un-vented fuel-burning appliances in any room with closed doors or windows or in any room where people are sleeping.

Install a CO detector/alarm that meets the requirements of the current UL standard 2034 or the requirements of the IAS 6-96 standard. A carbon monoxide detector/alarm can provide added protection, but is no substitute for proper use and upkeep of appliances that can produce CO. Install a CO detector/alarm in the hallway near every separate sleeping area of the home. Make sure the detector cannot be covered up by furniture or draperies.

