

ESP FOCUS

Carbon Monoxide and Radon



Your home may house dangerous gases!

You can't see or smell carbon monoxide, but it can be a serious threat in your home as well as in your automobile. Carbon monoxide, also known as CO, is a colorless and odorless gas. It is produced whenever any fuel such as gas, oil, kerosene, wood or charcoal is burned. Dangerous levels of carbon monoxide can result if appliances are working improperly or are used incorrectly. Even more people are affected by CO produced by idling cars.

Fetuses, infants, the elderly and those with anemia, breathing or heart problems are at increased risk. Carbon monoxide symptoms may include nausea, headaches, dizziness, increased pulse and respiration as well as confusion; severe poisoning can result in brain or heart damage and even death. If you think you may have been exposed to CO poisoning, get fresh air immediately by opening the doors and windows, turn off the suspected appliance and leave the house. Seek immediate medical attention.

Wherever you live, work or play, use the recommendations on the reverse side of this *Focus Sheet* to help reduce your risk of death, injury and property losses from carbon monoxide and radon poisoning.

Each month, ESP will examine a different hazard that could affect Californians and offer suggestions on how to reduce its impacts. These hazards are not limited to the month featured in the ESP Focus Sheet and can occur at any time.



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D E C E M B E R

Prevention of CO Poisoning

To avoid problems, consider the following **Do's and Don'ts**.

Do's

- Inspect all fuel-burning systems, gas appliances and fireplaces annually.
- Make sure the flues and chimneys are connected, in good condition and not blocked.
- Choose appliances that vent their fumes to the outside. Read and follow all instructions enclosed in any fuel-burning device. Have the appliance properly installed and maintained.

Don'ts

- Charcoal should never be used indoors, even in a fireplace.
- Gas ovens or ranges should never be used to heat a room, even for a short time.
- Gasoline-powered engines (e.g. lawnmowers, chain saws, weed trimmers, etc.) should not be used in enclosed areas.
- Idling the car in the garage should not be done, even if the garage door is open to the outside and if you expect to do it for only a short time.

Carbon monoxide detectors are available on the market, but they have their limitations. If you consider buying a detector, use it as a warning and not as a replacement for the proper use and maintenance of your fuel burning appliances.

Radon

Radon, much like carbon monoxide, is a gas that you can't smell or see. It is a radioactive gas emitted through the natural breakdown of uranium in soil, rock and water. It's also everywhere as part of the natural environment, but usually in insignificant amounts. Since this gas comes to the earth's surface from underground, it may build up to harmful levels in poorly ventilated basements. It enters your home through small spaces and openings such as unsealed crawl spaces, cracks and wall/floor joints in the basement, floor drains, pores in hollow block walls, sump pumps and other plumbing penetrations.

Radon also can seep into ground water and harbor there. Therefore, a radon problem is more likely if your home's water supply comes from a ground water source.

Health Effects from Radon Exposure

Over time, radon can be harmful to your health. As you breathe in the radon in enclosed areas, small amounts of radiation that can damage your lung tissue are released. This damage can eventually cause lung cancer. Lung cancer can result from an annual level of four picocuries per liter of air, which equals smoking 10 cigarettes a day. Smokers are at higher risk of developing radon lung cancer.

What Can You Do?

Fortunately, sealing a home can help reduce radon levels, and radon test kits are available. The key to getting accurate test results, however, depends on your understanding of the ventilation process in your home. Since fresh air dilutes radon, when your home is closed up for winter heating and summer air conditioning, radon starts to build up.

Consider doing the following to obtain the most-accurate radon test results:

- Test during the winter and while the house is occupied. Make sure the home has had some daily activity. Unoccupied homes trap and build up much higher levels of radon than lived-in homes.
- Test for radon in the lowest area of the home such as the basement or, if there is no basement, the first floor. Radon tends to settle in the areas closest to the ground.
- Test your tap water for radon levels if you use a ground water source. This usually requires that a water sample be sent to a laboratory analysis since no home kits are available.

Acceptable Radon Levels

Radon is measured in units of picocuries per liter of air (pCi/L). A home may contain an average of one to two picocuries per liter of air. Levels between four and 20 require some action. You may be able to take care of the problem yourself; however, when this is not possible, you may need to consider the use of a trained professional. Consult with local, county or state government agencies for guidelines when seeking a qualified contractor to assist with a radon problem.

Extracted and adapted from "Protect Your Family and Yourself from Carbon Monoxide Poisoning", EPA, Cincinnati, OH, "Checklist for the Prevention of Carbon Monoxide Poisoning," CDC, Atlanta GA, and "Basic Facts about Radon," EPA, Cincinnati, OH.

GETTING IT DONE IN 2001 PREPARING FOR ALL HAZARDS



This action sheet is produced as part of the Earthquake Survival Program (ESP). ESP is an awareness campaign designed to increase individual and home earthquake preparedness. ESP was developed by the County of Los Angeles. The California Governor's Office of Emergency Services (OES); representatives from Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, San Diego, San Luis Obispo, Santa Barbara, Ventura, and Yuma counties; and representatives from Southern California Edison assist in the development of campaign materials and coordination of the campaign.