



November 2021

The Real Dangers of Carbon Monoxide

This piece may seem familiar to our readers as we ran it last fall. However, this is an important message that bears repeating every fall.

The clock is ticking toward fall again, and we must ready ourselves and our homes for cooler weather. With that we must have our heating equipment checked to be sure it is ready for a long and steady use. For those of us with heat sources that require the burning of fossil fuels to keep us warm, we should go that extra mile in making sure our systems are safe.

While all heating systems, electric and gas require monitoring for the possibility of fire, all fossil fuel systems such as natural gas, propane, kerosene, coal, etc. have another element of danger, Carbon Monoxide. The burning of fossil fuel puts off another type of gas (CO) that must be vented to the outdoors, with the exception of properly sized and installed unvented equipment such as but not limited to ranges, gas logs, space heaters and similar equipment not required to be vented by code, because they give off such small levels of CO.

Carbon Monoxide (CO) is a colorless, odorless, and tasteless gas that is slightly less dense than air. It is toxic to all animals that use hemoglobin as an oxygen carrier when encountered in concentrations at or above 35 ppm (parts per million) It is truly the silent killer in larger quantities.

Every year more than 500 Americans die from accidental exposure to carbon monoxide and thousands more across the U.S. require emergency medical care for non-fatal carbon monoxide poisoning. These products include, but are not limited to, malfunctioning fuel-burning appliances such as furnaces, ranges, water heaters, gas and kerosene room heaters; engine-powered equipment such as portable generators; fireplaces; and charcoal that is burned in homes and other enclosed areas. Still others die from carbon monoxide produced by non-consumer products, such as cars left running in attached garages. The CDC estimates that several thousand people go to hospital emergency rooms every year to be treated for carbon monoxide poisoning.

Some symptoms of CO poisoning could include, but are not limited to:

- | | |
|----------------------|-------------------------|
| ✓ Dull headache | ✓ Shortness of breath |
| ✓ Weakness | ✓ Confusion |
| ✓ Dizziness | ✓ Blurred vision |
| ✓ Nausea or vomiting | ✓ Loss of consciousness |

Symptoms at certain levels (measured in parts per million) ppm are:

- Short term early symptoms could occur in 8 hours at 50 ppm.
- The same level of early symptoms within 15 minutes at 200 ppm.
- Headache in 1-2 hours, life-threatening in 3 hours at 400 ppm
- Headache, nausea in 45 minutes, death in 2-3 hours at 800 ppm
- Headache, nausea in 20 minutes, death in 1 hour at 1,600 ppm
- Headache, nausea in 5 minutes, death in 30 minutes at 3,200 ppm
- Headache, nausea in 1 minute, death in 10 minutes at 6,400 ppm

Two simple steps to ensure you and your family are safe

1. As you can see from the timeline above CO is a killer. The good news is there are systems designed to keep us safe and there are steps we can all take to prevent this from happening to us and our loved ones. The Residential code requires that all new homes have CO detectors installed, this is the first line of defense. If your home uses fossil fuels for heat, this is a must, if your home does not have a CO detector, you should have one installed or install one yourself before the next use of the system.
2. Next, the best advice is to have a licensed trained professional HVAC contractor examine your system every fall before use, not all leaks are obvious, even if you have an outdoor unit, a crack may develop in the heat exchanger and allow CO to enter your home through the heat duct system. These professionals can help keep you and your family safe from the dangers of Carbon Monoxide.