

Fire Update

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For the week: ♦ December 25, 2011 ♦ December 31, 2011

5,678 total runs in 2011

5,470 total runs in 2010

TIP OF THE MONTH: ♦

According to the *Journal of the American Medical Association*, carbon monoxide poisoning is the leading cause of accidental poisoning deaths in America. Carbon monoxide detectors are available, but you need to understand how they work and what their limitations are in order to decide whether or not you need a detector and, if you purchase a detector, how to use it to get the best protection.

What is Carbon Monoxide?

Carbon monoxide is an odorless, tasteless, invisible gas. Each carbon monoxide molecule is composed of a single carbon atom bonded to a single oxygen atom. Carbon monoxide results from the incomplete combustion of fossil fuels, such as wood, kerosene, gasoline, charcoal, propane, natural gas, and oil.

Where is Carbon Monoxide Found?

Carbon monoxide is present in low levels in the air. In the home, it is formed from incomplete combustion from any flame-fueled (i.e., not electric) device, including ranges, ovens, clothes dryers, furnaces, fireplaces, grills, space heaters, vehicles, and water heaters. Furnaces and water heaters may be sources of carbon monoxide, but if they are vented properly the carbon monoxide will escape to the outside. Open flames, such as from ovens and ranges, are the most common source of carbon monoxide. Vehicles are the most common cause of carbon monoxide poisoning.

How Do Carbon Monoxide Detectors Work?

Carbon monoxide detectors [trigger an alarm](#) based on an accumulation of carbon monoxide over time. Detectors may be based on a chemical reaction causing a color change, an electrochemical reaction that produces current to trigger an alarm, or a semiconductor sensor that changes its electrical resistance in the presence of CO. Most carbon monoxide detectors require a continuous power supply, so if the power cuts off then the alarm becomes ineffective. Models are available that offer back-up battery power. Carbon monoxide can harm you if you are exposed to high levels of carbon monoxide in a short period of time, or to lower levels of carbon monoxide over a long period of time, so there are different types of detectors depending on how the level of carbon monoxide is measured.

Why is Carbon Monoxide Dangerous?

When carbon monoxide is inhaled, it passes from the lungs into the hemoglobin molecules of red blood cells. Carbon monoxide binds to hemoglobin at the same site as and preferentially to oxygen, forming carboxyhemoglobin. Carboxyhemoglobin interferes with the oxygen transport and gas exchange abilities of red blood cells. The result is that the body becomes oxygen-starved, which can result in tissue damage and death. Low levels of carbon monoxide poisoning cause symptoms similar to those of the flu or a cold, including shortness of breath on mild exertion, mild headaches, and nausea. Higher levels of poisoning lead to dizziness, mental confusion, severe headaches, nausea, and fainting on mild exertion. Ultimately, carbon monoxide poisoning can result in unconsciousness, permanent brain damage, and death. Carbon monoxide detectors are set to sound an alarm before the exposure to carbon monoxide would present a hazard to a healthy adult. Babies, children, pregnant women, people with circulatory or respiratory ailments, and the elderly are more sensitive to carbon monoxide than healthy adults.

Where Should I Place a Carbon Monoxide Detector?

Because carbon monoxide is slightly lighter than air and also because it may be found with warm,

rising air, detectors should be placed on a wall about 5 feet above the floor. The detector may be placed on the ceiling. Do not place the detector right next to or over a fireplace or flame-producing appliance. Keep the detector out of the way of pets and children. Each floor needs a separate detector. If you are getting a single carbon monoxide detector, place it near the sleeping area and make certain the alarm is loud enough to wake you up.

What Do I Do if the Alarm Sounds?

Don't ignore the alarm! It is intended to go off *before* you are experiencing symptoms. Silence the alarm, get all members of the household to fresh air, and ask whether anyone is experiencing any of the symptoms of carbon monoxide poisoning. If anyone is experiencing symptoms of carbon monoxide poisoning, call 911. If no one has symptoms, ventilate the building, identify and remedy the source of the carbon monoxide before returning inside, and have appliances or chimneys checked by a professional as soon as possible.

Additional Carbon Monoxide Concerns and Information

Don't automatically assume that you need or don't need a carbon monoxide detector. Also, don't assume that you are safe from carbon monoxide poisoning just because you have a detector installed. Carbon monoxide detectors are intended to protect healthy adults, so take the ages and health of family members into account when assessing the effectiveness of a detector. Also, be aware that the average life span of many carbon monoxide detectors is about 2 years. The 'test' feature on many detectors checks the functioning of the alarm and not the status of the detector. There are detectors that last longer, indicate when they need to be replaced, and have power supply backups -- you need to check to see whether a particular model has the features you require. When deciding whether or not to purchase a carbon monoxide detector, you need to consider not only the number and type of carbon monoxide sources, but also the construction of the building. Newer building may have more airtight construction and may be better insulated, which make it easier for carbon monoxide to accumulate.

Fires: Fires this week: 5 Total for the year: 100

We ended the year with a variety of fires. Two car fires, a chimney fire, a stove fire and a mutual aid to Madison Heights.

EMS Runs: This week: 77 Total for the year: 3,833

Car Fires: This week: 0

Hazardous Conditions: This week: 0 Total for the Year: 353

Other Runs: This week: 21 Total for the year: 1391

Mutual Aid Responses:

Birmingham

Mutual Aid Received This week: 1 This year: 26

Mutual Aid Given This week: 0 This year: 3

Ferndale

Mutual Aid Received This week: 0 This Year: 18

Mutual Aid Given This week: 2 This Year: 52

Madison Hts.

Mutual Aid Received This week: 0 This Year: 22

Mutual Aid Given This week: 1 This Year: 28

Automatic Aid Given This week: 0 This Year: 1

Southfield

Mutual Aid Received This week: 0 This Year: 0

Mutual Aid Given  This week: 0  This Year: 1

West Bloomfield

Mutual Aid Received  This week: 0  This Year: _____

Mutual Aid Given  This week: 0  This Year: 1

Hazel Park

Mutual Given  This week: 0  This year: 1