



## ***Carbon Monoxide Q & A***

**Important note: If your carbon monoxide detector sounds or you believe you're suffering symptoms of carbon monoxide poisoning (see below), exit the building or vehicle and call the fire department using 911!**

### **What is the source of carbon monoxide?**

CO is produced by the incomplete combustion of fuels such as natural gas, propane, heating oil, kerosene, coal, charcoal, gasoline and wood. This problem can occur in **any** device which depends on burning for heat or energy. For example, furnaces, boilers, room heaters, hot water heaters, stoves, grills and any internal combustion engine are included in this list of devices. (See illustration at the bottom of this page).

### **What makes carbon monoxide so dangerous?**

Carbon monoxide is an odourless, colourless gas which is extremely toxic. When carbon monoxide is inhaled, it produces an effect known as chemical asphyxiation. Injury is due to the combining of CO with hemoglobin in the blood, lowering the blood's oxygen-carrying capacity. Even at very low parts per million levels, the body is quickly affected by oxygen starvation. Exposure during sleep is particularly dangerous because the victim usually **does not** awaken.

### **Why is CO a larger problem now?**

CO has been with us for many years. Many years ago our homes were built in a manner that allowed air leakage, therefore air exchange occurred within the home on a regular basis. Today's homes are super-insulated, sealed and wrapped in plastic. This "sealing" of the home creates an environment that not only captures and holds pollutants but often results in a "negative indoor pressure" that can and does draw toxic fumes back into the home.

### **How much of a problem is carbon monoxide poisoning?**

The U.S. Consumer Product Safety Commission (CPSC), has stated that CO is the largest cause of accidental poisoning in the American Home. At least 250 people die in the US each year from CO poisoning and many more are hospitalized. However, the Mayo Clinic published a report in 1984 that indicated much higher numbers. That report suggests that more than 1,500 people die from accidental CO poisoning annually and that 10,000 or more receive hospital or medical treatment. It goes on to say the numbers are likely much higher because reporting and recording procedures for CO incidents are not reliable.

### **Why should I be concerned about carbon monoxide gas?**

Carbon monoxide or CO is a poisonous gas which is especially dangerous due to its physical characteristics and effect on the body. It is often referred to as the "**Silent Killer**". There are many potential sources and combinations of conditions that may produce carbon monoxide. In any enclosed space (home, recreational vehicle, boat, etc.), even a small accumulation of CO can be dangerous.

**What are the symptoms of carbon monoxide poisoning?**

Carbon monoxide poisoning can strike quickly or build up over time. The initial symptoms of CO poisoning are similar to flu symptoms; **headache, nausea, and fatigue**. With increased exposure time or CO concentration, the symptoms become more severe, taking the form of **drowsiness and confusion**. Continued exposure can lead to **brain damage and death**.

**What are some common sources of carbon monoxide in a residence?**

The most common causes of CO accumulation in homes include; a blocked or poorly ventilated fireplace chimney or furnace flue, faulty or damaged heating equipment (**especially cracked furnace heat exchanges**), malfunctioning space heater, automobile or lawn mower exhaust in garages with poor ventilation.

**Is natural gas more likely to be a source of dangerous carbon monoxide than other fuels?**

When properly installed and maintained, your natural gas furnace and hot water heater do not emit carbon monoxide. Natural gas is known as a "**clean burning**" fuel, because under correct operating conditions the combustion byproducts are water vapour and carbon dioxide, which are not toxic. The exhaust from furnaces and water heaters is vented outside through a flue duct or chimney.

**Where should the carbon monoxide detector be placed in the home?**

Detectors should be placed in close proximity to bedrooms. They may also be placed in the furnace room or other areas of the residence where carbon monoxide might accumulate.

**What CO levels will harm me?**

It can vary, depending on length of exposure and the individual's health. Most people will not experience symptoms with levels of **1 to 70 parts per million (PPM)**. People with a heart condition might experience chest pains though. When CO levels remain **above 70 PPM**, symptoms may become noticeable. When levels top **150 PPM to 200 PPM**, the CO can cause disorientation, **unconsciousness and even death**, if the victim is not given fresh air.

## Sources Of Carbon Monoxide:

