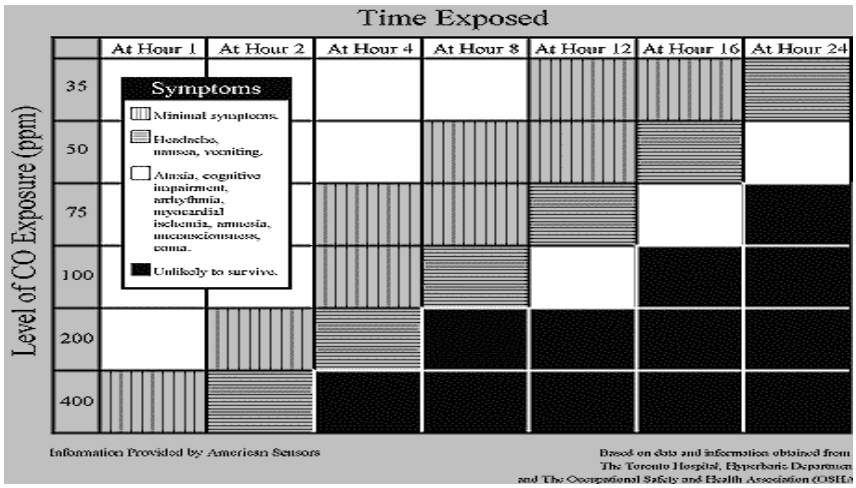
CARBON MONOXIDE DANGER LEVELS

Levels of Carbon Monoxide are considered dangerous. The chart below shows the health effects of CO exposure.

CO concentration (parts per million)	Symptoms
50	No adverse effects with 8 hours of exposure.
200	Mild headache after 2-3 hours of exposure.
400	Headache and nausea after 1-2 hours of exposure.
800	Headache, nausea, and dizziness after 45 minutes; collapse and loss of consciousness after 1 hour of exposure.
1,000	Loss of consciousness after 1 hour of exposure.
1,600	Headache, nausea, and dizziness after 20 minutes of exposure.
3,200	Headache, nausea, and dizziness after 5-10 minutes; collapse and loss of consciousness after 30 minutes of exposure.
6,400	Headache and dizziness after 1-2 minutes; loss of consciousness and danger of death after 10-15 minutes of exposure.
12,800	Immediate physiological effects, loss of consciousness and danger of death after 1-3 minutes of exposure

The U.S. Standards for CO levels are as followed:

- Maximum of 35 ppm of CO for 1-hour exposure (not be exceeded more than once per year).
- Maximum of 9 ppm of CO for 8-hour exposure (not to be exceeded more than once per year).



What is carbon monoxide?

Carbon monoxide (CO) is a colorless, odorless deadly gas. Because you can't see, taste, or smell it, carbon monoxide can kill you before you know it's there. Carbon monoxide, known by the chemical formula "CO", is a poisonous gas that kills approximately 534 people in the United States alone every year. Of that number, about 207 people were killed by carbon monoxide emitted from a consumer product, like a stove or water heater.

What are the sources of CO?

CO is a by-product of incomplete combustion. CO sources can include malfunctioning appliances -- including furnaces, stoves, ovens and water heaters -- that operate by burning fossil fuels such as natural or liquefied petroleum (LP). When malfunctioning appliances aren't adequately ventilated, the amount of CO in the air may rise to a level that can cause illness or even death. Other CO sources include vehicle exhaust, blocked chimney flues, fuel-burning cooking appliances used for heating purposes, and charcoal grills used in the home, tent, camper, garage or other unventilated areas.

Why is carbon monoxide so dangerous?

The great danger of carbon monoxide is its attraction to hemoglobin in the bloodstream. When breathed in, it enters the bloodstream and replaces the oxygen molecules found on the critical blood component, hemoglobin, depriving the heart and brain of the oxygen necessary to function. When CO is present in the air, it rapidly accumulates in the blood, causing symptoms similar to the flu, such as headaches, fatigue, nausea, dizzy spells, confusion, and irritability. As levels increase, vomiting, loss of consciousness, and eventually brain damage or death can result.