

Carbon monoxide is a colorless, tasteless, invisible toxic gas, which can cause serious health problems. The following information depicts the currently acceptable health effects of exposure to CO:

Estimated Levels of Exposure	
0ppm	Desired level
9ppm	Acceptable limit above ambient conditions in living areas (ASHRAE)
50ppm	Limit for continuous exposure in any 8 hour period (OSHA)
200ppm	Slight headaches, tiredness, dizziness, and nausea after 2-3 hours
400ppm	Frontal headaches 1-2 hours
800ppm	Nausea and convulsions, death within 2 hours
1600ppm	Nausea within 20 minutes, death within 1 hour / Headache, dizziness and nausea within 5-10 minutes.
3200ppm	Death within 30 minutes / Headache, dizziness and nausea within 1-2 minutes.
6400ppm	Death within 10-15 minutes
12800ppm	Death within 1-3 minutes



In the field, simple observations or findings may alert you to a potentially dangerous condition.

Due to their smaller size and generally higher metabolic rate, pets may be more obviously and more severely affected by CO intoxication than their owners.

When carbon monoxide is inhaled into the lungs and bonds with hemoglobin in blood, which forms Carboxyhemoglobin (COHb). This condition displaces oxygen in the blood stream and affects all major organs and muscles.

It has been determined that carbon monoxide molecules bond with hemoglobin in blood over 200 times more easily than oxygen molecules. Suffocation occurs from the inside out.

The health effects of CO depend upon the concentration in the air and the duration of the exposure.

Extended exposure to high concentrations will lead to unconsciousness, brain damage or death. However, for those of more vulnerable health, a lower concentration of exposure for longer periods of time may have similar effects as high concentrations for brief periods.

Healthy adults may show no ill effects to low concentrations of carbon monoxide.

However, headaches, a constant stuffiness or head pressure are very common symptoms of early CO poisoning and may be the prelude of a worsening condition. These conditions can go undiagnosed.

Respiratory problems, chronic heart disease, dizziness, vomiting, confusion, general weakness of the body or flu-like symptoms may be a result of CO poisoning.

The main therapy for CO poisoning is the administering of supplemental oxygen and ventilatory support and the monitoring of heart rate. The goal of oxygen therapy is to improve the O₂ content of the blood. O₂ therapy and observations should continue long enough to prevent additional poisoning once carboxyhemoglobin unloads from the cell.