

## Carbon Monoxide Poisoning

It is important to be aware of the potential danger of exposure to carbon monoxide. This is true at home or in a workplace setting such as the Village Hall, or public works garage. Carbon monoxide (CO) is a poisonous and odorless gas that cannot be seen or smelled and that can kill a person in minutes. It is produced by the incomplete burning of solid, liquid, and gaseous fuels. Common sources of CO are furnaces, water heaters and vehicles. Carbon monoxide poisons the body when breathed in by displacing the oxygen in the blood and starving the vital organs such as the brain and heart of oxygen. This leads to asphyxiation. The initial symptoms of CO poisoning are similar to the flu (but without fever). They include:



- Headache
- Fatigue
- Shortness of breath
- Nausea
- Dizziness
- Confusion

The following precautions can be taken in order to help prevent carbon monoxide poisoning both in and around the home and workplace:

- Install a CO detector in your home and workplace building – at least one CO detector must be installed within 15 feet of every room used for sleeping purposes.
- At the beginning of every heating season, have a trained professional check your heating system and also check chimney flues and vents for any blockages.
- Do not leave gas powered equipment running in a garage area even if the garage door is open; fumes can build up quickly and contaminate the air in the garage, and living area of your home.
- Know the symptoms of carbon monoxide poisoning. If you suspect CO poisoning, get outside to fresh air immediately, and then call 911.

CO Level	Conditions and Health Effects
0 ppm	Normal fresh air
9 ppm	Maximum allowable short-term exposure
10-24 ppm	Possible health effect with long-term exposure
25 ppm	Max TWA exposure for 8 hour workday
50 ppm	Maximum permissible exposure in workplace
100 ppm	Slight headache after 1-2 hours
200 ppm	Dizziness, nausea, fatigue, headache after 2-3 hours of exposure
400 ppm	Headache and nausea after 1-2 hours of exposure/Life threatening in 3 hours
800 ppm	Headache, nausea, and dizziness after 45 minutes/Collapse and unconsciousness after 1 hour of exposure. Death within 2-3 hours.
1,600 ppm	Headache, nausea, and dizziness after 20 minutes/Death within 1-2 hours.
3,200 ppm	Headache, nausea, and dizziness after 5-10 minutes/Collapse and unconsciousness after 30 minutes of exposure. Death within 1 hour.
6,400 ppm	Death within 30 minutes
12,800 ppm	Immediate physiological effects, unconsciousness/Death within 1-3 minutes of exposure

## Safety in Excavations or Trenches



Do NOT enter an unprotected excavation or trench!

OSHA regulations REQUIRE the following to be present at ALL excavations or trenches:

Excavations or trenches 5 feet deep or greater require a protective system.

The walls of the excavation or trench MUST be one of the following:

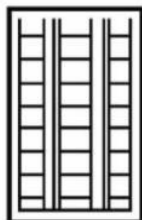
- Sloped for stability.



- Cut to create stepped or benched grades.



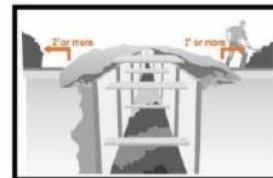
- Supported by a system made with posts, beams, shores or planking and hydraulic jacks.



- Supported by a trench box to protect workers in an excavation or trench.



- Excavated materials must be at least 2 feet away from the excavation or trench.



- An exit ladder must be within 25 feet of workers.

