

# MARCH Safety Talk

## Topic: Carbon Monoxide Poisoning



Carbon monoxide (CO) is produced when fossil fuels (such as gasoline or oil) are burned. Every year there are hundreds of cases of carbon monoxide poisoning.

It is very dangerous for two reasons:

1. Once in your body, carbon monoxide binds to your blood and reduces your body's ability to carry oxygen to your brain and muscles.
2. You may not even be aware that you are being exposed to carbon monoxide because humans cannot see, smell or taste it.

### Sources of CO

- Gasoline powered equipment produces high concentrations of carbon monoxide
- Liquid propane equipment is capable of producing high concentrations
- Diesel equipment produces the lowest concentrations

CO levels emitted by construction equipment	
Equipment	Concentration in parts per million (ppm)
Propane Floor Polisher	155
Water Pump	200 to 400
Air Compressor	320
Chainsaw	455
Pressure Washer	450 to 575
Chop Saw	Up to 900

In 2012, the BC Municipal Safety Association sponsored a study of worker exposure when cutting Asbestos-Cement Pipe in a very shallow excavation, using a K-12 saw and water. Carbon Monoxide from the K-12 saw exhaust gave a peak reading of 41ppm at the workers breathing zone.

This exposure took place outdoors, in a 3' trench. It doesn't take much to reach unacceptably high CO exposure.

### How to recognize an overexposure to carbon monoxide.

People who have been exposed to high concentrations of CO might complain of:

- Headaches
- Dizziness
- Nausea/Vomiting
- Fatigue

People who have been exposed to extremely high concentrations might:

- Faint/lose consciousness
- Have cherry red lips and/or fingertips



### How to prevent exposure.

- Use powered equipment in well ventilated areas.
- Avoid using generators and other gasoline, diesel or LP powered equipment indoors without mechanical ventilation.
- Provide additional ventilation in areas where powered equipment is in use.

- Use carbon monoxide monitoring equipment to assess the work area concentrations of carbon monoxide.
- Do NOT use ½ mask, dual-cartridge respirators; these will not protect you from CO exposure and can only be used in areas with sufficient oxygen.

**If you suspect that you or someone you work with has been exposed to carbon monoxide, move immediately to fresh air and seek immediate medical attention.**

- If a worker must be rescued from an area with high CO levels, rescue workers must be wearing SCBA or SAR. Only qualified persons should perform rescue.
- If available, give 100% oxygen through a tight-fitting mask. Continue oxygen therapy for at least two hours.
- If the worker is having trouble breathing or is not breathing, start assisted ventilation using a pocket mask. Add oxygen to the mask, if available. If the worker has no pulse, begin CPR.
- Get the worker to a hospital while continuing first aid treatment.

An exposure control plan template for Carbon Monoxide can be found on our website:

<http://www.bcmsa.ca/resources/exposure-control-plans>

The template must be customized for your organization, and workers must be trained in the exposure control plan to ensure they are aware of the hazards of CO exposure, as well as the procedures to eliminate or limit exposure.