

Toolbox Talk # 1.05 – Carbon Monoxide I

What is Carbon Monoxide?

Carbon Monoxide (CO) is a poisonous, colorless, tasteless, odorless gas. CO gas is generated as a waste product of the incomplete combustion of coal, wood, oil, and other petroleum based fuels (e.g. gasoline, propane, etc). CO gas, although odorless, usually occurs in a combination of combustion by-products that have distinctive odors. The primary source of CO gas is the internal combustion engine. CO gas is also generated in industrial operations such as auto repair, oil refining, steel and chemical manufacturing.

Health Hazards:

CO is a chemical asphyxiant which means that it reduces the blood's ability to carry oxygen. Asphyxiation, or suffocation, occurs when the blood does not deliver enough oxygen to the body.

CO gas is absorbed through the lungs into the bloodstream. Inhalation of CO gas may cause headaches, nausea, dizziness, weakness, rapid breathing, unconsciousness and death. High concentrations of CO may be rapidly fatal without producing significant warning symptoms.

Exposure to this gas may aggravate preexisting heart and artery disease. As CO gas is odorless, there may be no odor warning if toxic concentrations are present.

If you suspect CO poisoning, move the person immediately to the fresh air away from the source of the CO. Call 911 or your emergency number for medical assistance. CO poisoning can be reversed if caught in time.

Safety Hazards:

CO gas mixes very well with air. CO gas penetrates easily through walls and ceilings. It is an extremely flammable gas. CO gas may react very strongly with oxygen, acetylene, chlorine, fluorine or nitrous oxide.

Who is at Risk?

Workers most likely to be exposed to carbon monoxide are welders, mechanics, firefighters, long shore workers, diesel engine operators, forklift drivers, toll booth or tunnel attendants, police, taxi drivers, shipping and receiving workers and warehouse personnel.

Methods of Control of Carbon Monoxide

To reduce the chances of CO poisoning in the workplace:

- Install a ventilation system that will effectively remove CO from the work area.

- Properly maintain equipment that may produce CO to enhance safe operation and to reduce CO generation.

- Consider switching from gasoline-powered equipment to battery or electric equipment.

- Prohibit the use of gasoline-powered equipment indoors or in poorly ventilated areas.

- Consider installing CO detectors with audible alarms.

- Educate workers about the sources, hazards, and controls of CO.

What Can You Do To Help?

Report any situation to your employer that might cause CO to build up.
Pay attention to ventilation problems, especially in enclosed areas.

Avoid the use of gas-powered equipment in enclosed spaces.

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Project: _____

Date: _____

Supervisor: _____

Company: _____

Other safety issues covered or comments from crew members:

Attendees:

Name: (please print)	Signature:	Company:
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