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Quick, Silent Killer-----Carbon Monoxide

Carbon monoxide (CO) is one of the most dangerous and common industrial hazards. This poisonous gas kills quietly and outright. It also causes brain damage, heart and breathing problems and other illnesses and injuries.

CO gives no warning of its presence because it is colorless, odorless and tasteless. The main source of carbon monoxide is incomplete burning of anything that contains carbon. This includes gasoline, natural gas, oil, propane, coal and wood.

During normal combustion each atom of carbon in the burning fuel joins with two atoms of oxygen forming a gas called carbon dioxide. When there isn't enough oxygen for complete burning, each atom of carbon joins up with only one atom of oxygen, forming carbon monoxide gas.

The internal combustion engine, such as used in motor vehicles, is the most common source of workplace exposure. Other sources include heat furnaces, forges, blast furnaces, coke, ovens and kilns.

CO poisons by displacing oxygen in the blood after it is inhaled. CO combines 200 times faster with the blood's oxygen carrier, hemoglobin, than does oxygen. Large amounts of CO in the air can kill a person within minutes, even if there is plenty of oxygen available in the air.

At lower levels, CO causes headaches, tightness across the chest, fatigue, nausea and drowsiness. With symptoms such as these, CO poisoning is often mistaken for an illness such as the flu. A worker with mild CO poisoning is prone to injury and errors because of being sleepy, tired and inattentive.

Increased exposure interferes with physical coordination and mental alertness. CO exposure can lead to convulsions, coma and in many cases death. Even if a victim survives a serious exposure he or she may suffer permanent damage to body tissue, particularly of the brain and the heart.

At risk for CO poisoning are workers in settings such as these:
Foundries
Ice Arenas
Tunnels
Toll Booths
Warehouses
Loading Docks
Motor Vehicle Repair Shops
Breweries
Bakeries

CO is also a hazard at home. A poorly adjusted or defective fuel furnace can cause CO to form and accumulate in the house through leaking flues, vents and chimneys. Hot water heaters, clothes, dryers and space heaters fueled by natural gas or propane also can generate deadly CO. Maintaining adequate ventilation, using the devices correctly and installing a CO detector are three ways to prevent poisoning.

Motor vehicles are the main cause of all carbon monoxide deaths. Moving and stationary vehicles are involved. More than one-third of deaths from CO involving motor vehicles occur during the winter often in garages.

Safety Tip: To prevent CO poisoning from vehicle exhaust be sure and check and repair any holes in mufflers or exhaust pipes. Inspect tail pipe outlets to make sure they are not clogged with snow before starting the engine. Keep a window open when the vehicle is idling and don't sit in an idling vehicle in an enclosed space such as a garage.