

LOSS CONTROL DATA GUIDE

Carbon Monoxide

Carbon monoxide, a colorless, odorless, tasteless gas, is one of the most common industrial hazards. Mild poisoning can cause such symptoms as nausea, dizziness or headaches while severe poisoning can result in brain or heart damage or even death.

This poisonous gas is produced by the incomplete burning of any material containing carbon, such as gasoline, natural gas, oil, propane, coal or wood. Forges, blast furnaces and coke ovens all produce carbon monoxide, but one of the most common sources of exposure in the workplace is the internal combustion engine. Areas and operations which may present harmful levels of carbon monoxide include:

- Acetylene Welding
- Blast Furnaces
- Boiler Rooms
- Breweries
- Carbon Black Making
- Coke Ovens
- Customs Warehouse Operations
- Diesel Engine Operations
- Truck Terminals
- Vehicle Repair Garages
- Metal Oxide Reducing Operations
- Mining
- Organic Chemical Synthesizing
- Petroleum Refineries

- Pulp and Paper Mills
- Foundries and Steel Mills
- Toll Booths and Tunnels
- Warehouses

Carbon monoxide can kill in a matter of minutes if large amounts are present in the air. Carbon monoxide molecules replace oxygen in the red blood cells, and death by suffocation results.

The more carbon monoxide in the air and the longer a person is exposed to it, the greater the danger. Heart conditions, ingestion of alcohol and/or barbituates and smoking increase the adverse health effects.

Any one or more of the following symptoms can signal carbon monoxide poisoning: headaches, tightness across the chest, nausea, drowsiness, inattention of fatigue. As the amount of carbon monoxide in the air increases, more serious symptoms develop such as lack of coordination, weakness and confusion. The poisoning can be reversed if caught in time. But even if the exposed person recovers, acute poisoning may result in permanent damage to the parts of the body which require a lot of oxygen—the brain and heart.

If carbon monoxide is thought to be present, leave the area into open fresh air. Anyone overcome by the gas should be removed immediately and given artificial respiration. Call for a doctor and continue the artificial respiration until the doctor arrives or the person recovers. Prompt action can make the difference between life and death.

Carbon Monoxide Poisoning Prevention

Suggestions for employers

- Install an effective ventilation system to remove poisonous carbon monoxide from the area.
- Maintain appliances and equipment in good order, adjusting flames, burners and drafts to reduce the formation of carbon monoxide.
- Switch from gasoline-powered equipment to battery-powered machinery where possible.
- Provide approved respirators for emergency use. If necessary, provide an independent air supply to workers.
- Regularly test air in areas where carbon monoxide is generated or used.
- Provide preplacement and periodic medical examinations for workers who may be exposed to carbon monoxide. If possible, transfer affected workers to other jobs.
- Instruct workers in the hazards of carbon monoxide and train them in artificial respiration and the proper use of respirators.

Suggestions for workers

- Report to your employer any condition which might make carbon monoxide form or accumulate.
- Be alert to ventilation problems, especially in enclosed areas where gases of burning fuels may be released.
- Report complaints early. Don't overexert yourself if you suspect carbon monoxide poisoning. Physical activity increases the body's need for oxygen and thus increases the danger of poisoning.
- If you get sick, don't forget to tell your doctor about the possibility of exposure to carbon monoxide.
- Think carefully about your smoking habits. Tobacco, when burned, releases carbon monoxide which reduces the oxygen-carrying ability of the blood, even before any industrial exposure is added.

The Occupational Safety and Health Administration standard for exposure to carbon monoxide prohibits worker exposure to more than 50 parts of the gas per million parts of air, averaged over an 8-hour workday.

The loss prevention information and advice presented in this brochure are intended only to advise our insureds and their managers of a variety of methods and strategies based on generally accepted safe practices, for controlling potentially loss producing situations commonly occurring in business premises and/or operations. They are not intended to warrant that all potential hazards or conditions have been evaluated or can be controlled. They are not intended as an offer to write insurance coverage for such conditions or exposures, or to imply that Great American Insurance Company will write such coverage. The liability of Great American Insurance Company is limited to the specific terms, limits and conditions of the insurance policies issued.