

# How Employers Can Prevent Carbon Monoxide (CO) Poisoning at the Worksite

*In June, 2014, twelve North Carolina manufacturing workers reported experiencing headaches, dizziness, blurred vision and nausea while on the job. They were being poisoned by a dangerous gas called carbon monoxide after a gas-powered tool was used indoors in a poorly ventilated area. Don't let this happen at your worksite!*

## Recognize the Signs:



Photo courtesy of Gas Safe Register (UK): GasSafeRegister.co.uk



Photo courtesy of The Center for Disease Control and Prevention: CDC

- Carbon monoxide (CO) is an odorless, colorless gas that can cause sudden illness and death.
- CO is a lethal poison that can quickly build up when combustible materials, such as gasoline, propane, diesel or wood are burned indoors.

## Know Your CO Sources:

- Processing-related: production furnace
- Building-related: heating system or hot water heater
- Tool-related: tile cutters, fork-lifts, generators, floor buffers, and power washers
- Conduct a workplace survey to identify all actual or potential sources of CO (i.e.: equipment, processes, bulk storage)



## Monitor CO Levels:

- Monitor employee CO exposure to determine worker exposure and the extent of the hazard.
- Use personal CO monitors where potential CO sources may exist. These monitors should be equipped with audible alarms to warn workers when CO concentrations are too high.
- CO testing or continuous monitoring is strongly recommended if there is any reason to question proper venting of indoor combustion sources.
- In North Carolina the permissible exposure limit for CO in general industry and construction is 50 parts per million (ppm) averaged over eight hours.
- The Immediately Dangerous to Life and Health (IDLH) level for CO is 1,200ppm at any given time, according to the National Institutes for Occupational Safety and Health (NIOSH).
- Best practice is to never allow CO levels to go above 150ppm within any area at any given time.



**BEWARE!**

**CO is known as the silent killer!**

### **Educate Workers:**

- Educate workers about the sources, symptoms and work conditions that may result in CO poisoning.
- Train workers on methods to control CO exposure.

### **Ventilation:**

- Increase ventilation that moves fresh air in, around and out of rooms. Ventilation is one of the most effective controls used to reduce CO exposure.

### **Modification of Existing Equipment or Processes:**

- Upgrading existing processes or equipment may help control CO emissions in the workplace. Any changes should be examined carefully to ensure that other problems are not created.
- Isolating CO sources behind enclosed or separate spaces from workers (i.e.: barriers or walls) is the most common modification of existing processes.

### **Equipment Selection:**

- Eliminating CO sources is the best way to prevent CO poisoning. Consider using electrically-powered equipment instead of gasoline or propane-powered equipment.
- Ensure equipment producing CO are controlling emissions as much as possible (i.e.: provide venting points connected to local exhaust ventilation systems).

### **Maintain Equipment:**

- Ensure equipment and appliances that can produce CO are in good working order.

Training is an on-going process of continued updating and re-evaluation.  
This is necessary to ensure continued success of the CO control program.

### **Need More Information?**

919-707-5900

Occupational and Environmental Epidemiology Branch

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[www.ncdhhs.gov](http://www.ncdhhs.gov) - [www.publichealth.nc.gov](http://www.publichealth.nc.gov)



Adapted from:

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