

## F A C E

atality  
Assessment &  
Control  
Evaluation

## Prevention through comprehensive research and investigation

### INVESTIGATION/RESEARCH

### CO: WHAT YOU CANNOT SMELL CAN KILL YOU

Since 2001, 10 workers have died in Michigan from exposure to carbon monoxide (CO). CO is a colorless, odorless gas that can quickly build up to a lethal concentration. Exposure to high levels of CO can cause unconsciousness, coma, and death. Recent fatalities due to CO exposure include:

- 70-year-old church security guard died from CO poisoning from an indoor generator.
- 45-year-old farmer died from CO poisoning while repairing a tractor in a barn from tractor exhaust.
- 47-year-old painter spraying water-based latex paint died from CO poisoning in a manufacturing plant from a propane-powered snorkel lift.
- 40-year-old construction company owner died from CO poisoning at a construction site from a portable propane space heater.

### IN ORDER TO PREVENT SIMILAR INCIDENTS IN THE FUTURE

- **Provide training** to recognize CO sources and signs and symptoms of CO exposure.
- **Identify** all sources of combustion because all emit CO gas.
- **Install a CO detector/alarm** meeting the requirements of the current UL standard 2034 or the IAS 6-96 standard in areas where fuel-burning equipment/appliances are present.
- **Ensure** a trained professional annually inspects and services fuel-burning equipment and appliances, such as an oil or gas furnaces, gas hot water heaters, or portable compressors. When measuring tailpipe exhaust of LPG fork trucks to minimize CO output, **use a CO analyzer** specifically designed for that purpose.
- **Use** tools powered by electricity or compressed air approved for indoor use when working indoors.
- **Place** gasoline- or fuel-powered equipment outdoors and away from windows, doors or vents. CO could enter the building through the openings and build up in the work area.
- **If gasoline- or fuel-powered equipment must be used indoors or in enclosed or partially-enclosed spaces, such as houses, garages, crawl spaces and basements, vent** equipment exhaust outdoors and away from air intakes such as doors, windows or fresh air vents. **Provide supplemental fresh air** inside the building because even with doors and windows open, CO levels can reach lethal levels in a short period of time.

### DID YOU KNOW?

- Common sources of CO exposure in the workplace include generators, pressure washers, propane-powered forklifts, propane space heaters, and compressors.
- You cannot rely on smell to detect CO.
- Symptoms of CO poisoning are hard to recognize because they may mimic flu symptoms (but without the fever). CO poisoning symptoms include: tightness in chest, shortness of breath, headache, vomiting, dizziness, and muscle weakness.
- People exposed to CO who have preexisting heart disease or hardening of the arteries are at increased risk of having a heart attack or stroke.
- CO poisoning can cause permanent damage to organs, such as the heart and brain that require a rich supply of oxygen.

**MIFACE** Investigation Report #06MI204:  
Security Guard Dies Due to CO Poisoning.

[www.oem.msu.edu](http://www.oem.msu.edu)

**MIOSHA:** Carbon Monoxide.

[www.michigan.gov/documents/cis\\_wsh\\_cet5010\\_90097\\_7.doc](http://www.michigan.gov/documents/cis_wsh_cet5010_90097_7.doc)

**MIOSHA:** Carbon Monoxide Hazards from Internal Combustion Engines.

[www.michigan.gov/documents/cis\\_wsh\\_cet5011\\_115680\\_7.doc](http://www.michigan.gov/documents/cis_wsh_cet5011_115680_7.doc)

**WAYNE STATE UNIVERSITY:** CO

Headquarters [www.coheadquarters.com](http://www.coheadquarters.com)

HA #10 10/25/07

**TO REPORT A NEW WORKPLACE  
FATALITY TO MIOSHA**

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