



Fatal Facts

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Key Points

- Even seemingly well-tuned engines can generate harmful levels of carbon monoxide (CO).
- You cannot see, smell or taste CO: Do not rely on your nose to detect CO.
- Workers should be educated on sources, symptoms and control of CO exposure.
- Do not run gasoline or other fuel-powered engines indoors or in enclosed spaces
- Identify all possible CO sources and provide gas monitors if exposure potential exists.

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Commercial Cleaner Dies of Carbon Monoxide (CO) Poisoning While Using Truck-Mounted Cleaning System

On April 9, 2006, a janitorial service employee in Washington State died of carbon monoxide (CO) poisoning. The victim had been cleaning carpets using a truck-mounted carpet cleaner in an unoccupied warehouse/office. The cleaning unit was powered by gasoline drawn from the vehicle's fuel tank. He parked his vehicle, with the cleaning unit running, in the enclosed warehouse, and had been cleaning the carpets of the office spaces. All warehouse doors and windows were closed.



Photo: The truck-mounted cleaner involved in the incident.

Every year workers get sick and some die from carbon monoxide poisoning caused by exposure to fuel-powered tools and equipment. Small gasoline and other fuel-powered engines and tools present a serious hazard with serious consequences. This incident occurred in a janitorial/commercial cleaning company; however, CO exposures exist in workplaces across industries where fuel-powered engines are used.

CO is a colorless, odorless gas that is produced by burning fuel, such as gasoline, kerosene, oil, propane, coal or wood. It can overcome you without warning. Gas levels can build up quickly in enclosed spaces. Types of equipment that have caused similar incidents include: propane buffers, generators, space heaters, pumps, blowers, compressors, concrete saws and forklifts.

Preventing CO Poisoning from Powered Equipment

- Identify all potential sources and exposures to carbon monoxide gases. Refer to equipment manufacturers' safety guidelines and operating procedures.
- Employers should educate workers on hazards, symptoms, sources and control of CO exposure. Training should be compatible with workers' language abilities.
- Do not use gasoline or other fuel-powered engines, equipment or tools inside buildings or enclosed areas where carbon monoxide levels can quickly build up. Simply opening doors and windows may not provide adequate ventilation.
- Use engines powered by electricity or compressed air approved for indoor use when operating indoors or in enclosed spaces.
- Use local exhaust ventilation to remove CO and other exhaust gases from areas where there are no other options but to use gasoline-powered equipment.
- Monitor the workplace exposure for carbon monoxide. Use monitors that have alarms to warn workers of high levels of carbon monoxide in the work area.
- Even if outside, place fuel-powered equipment away from doors, windows or vents that can cause CO to build up inside.

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What are the symptoms of CO poisoning?

Symptoms of CO poisoning are sometimes hard to recognize and are similar to other common health conditions such as cardiac problems and the flu (but without the fever).

They include:

Tightness across the chest	Shortness of breath
Headache	Nausea
Fatigue	Dizziness
Vomiting	Confusion
Muscle weakness	Loss of consciousness

CO poisoning can be reversed if caught in time. But even if you recover, CO poisoning may result in permanent damage to the parts of your body that require a lot of oxygen, such as the heart and brain.

What to do if you suspect you and/or others have symptoms of CO poisoning?

- Immediately get exposed people and yourself to fresh air in an open area.
- Immediately seek medical help by calling 911 or another local emergency number.
- Administer CPR if exposed victims have stopped breathing.

You can be exposed to fatal levels of CO in a rescue attempt. DO NOT stay in the location with the victim if you suspect there may be high levels of CO.

Other Resources

Washington State Department of Labor & Industries: 1-800-423-7233 (1-800-4BESAFE). L&I offers free consultation and investigates worker complaints.

SHARP Program: Employer's Guide, Educational Pamphlet and Poster on CO from forklifts at <http://www.LNI.wa.gov/Safety/Research/Pubs/> (Pubs. 81-1-2005, 81-2-2005, and 81-3-2005).

NIOSH Publications: No. 96-118- Preventing Carbon Monoxide Poisoning from Small Gasoline-Powered Engines and Tools at <http://www.cdc.gov/niosh/carbon2>, and Carbon Monoxide Hazards from Small Gasoline Powered Engines at <http://www.cdc.gov/niosh/topics/co/>

OSHA Fact Sheet: Carbon Monoxide Poisoning

http://www.osha.gov/OshDoc/data_General_Facts/carbonmonoxide-factsheet.pdf

OSHA Quick Card: Protect Yourself: Carbon Monoxide Poisoning

http://www.osha.gov/OshDoc/data_Hurricane_Facts/carbon_monoxide.pdf

Centers for Disease Control and Prevention: Environmental Hazards and Health Effects Program, CO Poisoning Fact Sheet (in 10 languages) <http://www.cdc.gov/co/faqs.htm>

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