



CPSC Safety Alert: Portable Generator Hazards

U.S. Consumer Product Safety Commission ■ Washington, DC 20207 ■ www.cpsc.gov ■ 800-638-2772

Portable generators are useful when temporary or remote electric power is needed, but they also can be hazardous. The primary hazards to avoid when using a generator are carbon monoxide (CO) poisoning from the toxic engine exhaust, electric shock or electrocution, and fire.

Every year, people die in incidents related to portable generator use. Most of the incidents associated with portable generators reported to CPSC involve CO poisoning from generators used indoors or in partially-enclosed spaces.

Carbon Monoxide Hazards

NEVER use a generator in enclosed or partially-enclosed spaces. Generators can produce high levels of CO very quickly. When you use a portable generator, remember that you cannot smell or see CO. Even if you can't smell exhaust fumes, you may still be exposed to CO.

If you start to feel sick, dizzy, or weak while using a generator, get to fresh air RIGHT AWAY. DO NOT DELAY. The CO from generators can rapidly lead to full incapacitation and death.

If you experience serious symptoms, get medical attention immediately. Inform medical staff that CO poisoning is suspected. If you experienced symptoms while indoors, have someone call the fire department to determine when it is safe to re-enter the building.

Follow these safety tips to protect against CO poisoning.

- NEVER use a generator indoors, including in homes, garages, basements, crawl spaces, and other enclosed or partially-enclosed areas, even with ventilation. Opening doors and windows or using fans will not prevent CO build-up in the home.
- Follow the instructions that come with your generator. Locate the unit outdoors and away from doors, windows, and vents that could allow CO to come indoors.
- Install battery-operated CO alarms or plug-in CO alarms with battery back-up in your home, according to the manufacturer's installation instructions. The CO alarms should be certified to the requirements of the latest safety standards for CO alarms (UL 2034, IAS 6-96, or CSA 6.19.01).
- Test your CO alarms frequently and replace dead batteries.

Electrical Hazards

Follow these tips to protect against shock and electrocution.

- Keep the generator dry and do not use in rain or wet conditions. To protect from moisture, operate it on a dry surface under an open, canopy-like structure. Dry your hands if wet before touching the generator.

To avoid CO poisoning when using a portable generator:

- *Never run it indoors, including garages, basements, and crawlspaces.*
- *Get to fresh air right away if you start to feel dizzy or weak.*

- Plug appliances directly into the generator. Or, use a heavy duty, outdoor-rated extension cord that is rated (in watts or amps) at least equal to the sum of the connected appliance loads. Check that the entire cord is free of cuts or tears and that the plug has all three prongs, especially a grounding pin.
- NEVER try to power the house wiring by plugging the generator into a wall outlet, a practice known as "backfeeding." This is an extremely dangerous practice that presents an electrocution risk to utility workers and neighbors served by the same utility transformer. It also bypasses some of the built-in household circuit protection devices.
- If you must connect the generator to the house wiring to power appliances, have a qualified electrician install the appropriate equipment in accordance with local electrical codes. Or, check with your utility company to see if it can install an appropriate power transfer switch.
- For power outages, permanently installed stationary generators are better suited for providing backup power to the home. Even a properly connected portable generator can become overloaded. This may result in overheating or stressing the generator components, possibly leading to a generator failure.

Fire Hazards

Follow these tips to prevent fires.

- Never store fuel for your generator in the home. Gasoline, propane, kerosene, and other flammable liquids should be stored outside of living areas in properly-labeled, non-glass safety containers. Do not store them near a fuel-burning appliance, such as a natural gas water heater in a garage. If the fuel is spilled or the container is not sealed properly, invisible vapors from the fuel can travel along the ground and can be ignited by the appliance's pilot light or by arcs from electric switches in the appliance.
- Before refueling the generator, turn it off and let it cool down. Gasoline spilled on hot engine parts could ignite.