As we move into the heart of the blizzard and winter storm season, the U.S. Consumer Product Safety Commission (CPSC) would like to offer families a few useful tips to help them avoid potentially hazardous and even deadly exposure to Carbon Monoxide (CO) gases. When people lose power during blizzards or other strong storms, they often turn to portable generators as a reliable stop gap measure until their full power is restored. Unfortunately, what many people don’t realize is that those portable generators, if used improperly, can result in deadly CO gas exposure in just minutes. Every year, more than 100 people in the United States die from unintentional exposure to CO gas from portable generators and other fuel burning appliances and products.

However, there are a few steps that families can take to help mitigate the risks associated with using portable generators and other fuel burning appliances. First and foremost, every home should be equipped with battery-operated CO detectors stationed on every floor near sleeping areas. Because CO cannot be seen or smelled, a CO detector is your best defense against the threat of CO poisoning. Additionally, before using a product for the first time, please carefully read all of the directions and warnings associated with the product – it might help you to avoid a potentially dangerous or life-threatening situation. Moreover, when using a portable generator or charcoal grill, please make sure to use them far away from your home, garage, shed or other enclosed spaces. They also need to be kept far away from any open windows, doors or vents. Lastly, if you start to feel sick, weak, or dizzy, go outside and get fresh air immediately – CO poisoning from exposure to portable generator fumes can quickly lead to incapacitation and death.

Throughout this winter storm season, please follow these simple steps to keep you and your family safe!
Suggested Constituent “Tweets”

**English CO Messages:**
Do you have a working CO alarm in your house? It’s a key storm preparedness safety tool [http://1.usa.gov/JZeFjZ](http://1.usa.gov/JZeFjZ)

No power? Stay warm without burning charcoal inside. It can kill you. [http://1.usa.gov/JGKDC1](http://1.usa.gov/JGKDC1) #COKills

Keep generators far from house, doors, windows, garage. [http://1.usa.gov/qIUIO4](http://1.usa.gov/qIUIO4)

Are you running a generator at home? Check your carbon monoxide alarm to make sure it’s working. #COKills


Take carbon monoxide safety seriously during this storm. Protect yourself. [http://1.usa.gov/zslKCG](http://1.usa.gov/zslKCG)

Keep generators outside, working CO alarms inside. [http://1.usa.gov/qIUIO4](http://1.usa.gov/qIUIO4)

**Spanish CO Messages:**
Prepárate para la temporada de huracanes. Aprende sobre el uso seguro de generadores portátiles [http://1.usa.gov/K37bfN](http://1.usa.gov/K37bfN)

¿Funciona adecuadamente la alarma de CO en su casa? En la temporada de huracanes, es esencial [http://1.usa.gov/KEt2ih](http://1.usa.gov/KEt2ih)

*To see these and other product safety-related tweets and messages, please visit our Twitter page at [http://twitter.com/#!/OnSafety](http://twitter.com/#!/OnSafety) and our OnSafety Blog at [http://www.cpsc.gov/onsafety/](http://www.cpsc.gov/onsafety/)*
What should you do?

Proper installation, operation, and maintenance of fuel-burning appliances in the home is the most important factor in reducing the risk of CO poisoning.

Make sure appliances are installed according to the manufacturer’s instructions and the local codes. Most appliances should be installed by professionals.

Always follow the appliance manufacturer’s directions for safe operation.

Have the heating system (including chimneys and vents) inspected and serviced annually by a trained service technician.

Examine vents and chimneys regularly for improper connections, visible cracks, rust or stains.

Look for problems that could indicate improper appliance operations:
- Decreased hot water supply
- Furnace unable to heat house or runs continuously
- Sooting, especially on appliances and vents
- Unfamiliar, or burning odor
- Increased moisture inside of windows

Operate portable generators outdoors and away from open doors, windows, and vents that could allow CO to come indoors.

In addition, install battery-operated CO alarms or plug-in CO alarms with battery back-up in your home. Every home should have a CO alarm in the hallway near the bedrooms in each separate sleeping area. The CO alarms should be certified to the requirements of the most recent UL, IAS, or CSA standard for CO alarms. Test your CO alarms frequently and replace dead batteries. A CO alarm can provide added protection, but is no substitute for proper installation, use and upkeep of appliances that are potential CO sources.

Symptoms of CO poisoning

The initial symptoms of CO poisoning are similar to the flu (but without the fever). They include:
- Headache
- Fatigue
- Shortness of breath
- Nausea
- Dizziness

If you suspect that you are experiencing CO poisoning, get fresh air immediately. Leave the home and call for assistance from a neighbor’s home. You could lose consciousness and die from CO poisoning if you stay in the home.

Get medical attention immediately and inform medical staff that CO poisoning is suspected. Call the Fire Department to determine when it is safe to reenter the home.

Carbon Monoxide (CO) is the “invisible” killer. Carbon monoxide is a colorless and odorless gas. Every year more than 100 people in the United States die from unintentional exposure to carbon monoxide associated with consumer products.

What is carbon monoxide?

Carbon monoxide is produced by burning fuel. Therefore, any fuel-burning appliance in your home is a potential CO source.

When cooking or heating appliances are kept in good working order, they produce little CO. Improperly operating appliances can produce fatal CO concentrations in your home.

Running a car or generator in an attached garage can cause fatal CO poisoning in the home. So can running a generator or burning charcoal in the basement, crawlspace, or living area of the home.
Improper burner adjustments
Hidden blockage or damage in chimneys
Only a trained service technician can detect hidden problems and correct these conditions!
CO poisoning symptoms have been experienced when you are home, but they lessen or disappear when you are away from home.

Warnings...
Never leave a car running in a garage even with the garage door open.
Never run a generator in the home, garage, or crawlspace. Opening doors and windows or using fans will NOT prevent CO build-up in the home. When running a generator outdoors, keep it away from open windows and doors.
Never burn charcoal in homes, tents, vehicles, or garages.
Never install or service combustion appliances without proper knowledge, skills, and tools.
Never use a gas range, oven, or dryer for heating.
Never put foil on bottom of a gas oven because it interferes with combustion.
Never operate an unvented gas-burning appliance in a closed room or in a room in which you are sleeping.

Sources of and Clues to a Possible Carbon Monoxide (CO) Problem

Carbon monoxide clues you can see...
- Rusting or water streaking on vent/chimney
- Loose or missing furnace panel
- Sooting
- Debris or soot falling from chimney, fireplace, or appliance
- Loose or disconnected vent/chimney, fireplace or appliance
- Loose masonry on chimney
- Moisture inside of windows

Carbon monoxide clues you cannot see...
- Internal appliance damage or malfunctioning components

When running a generator outdoors, keep it away from open windows and doors.
Portable Generator Hazards

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, fire and burns.

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

When used in a confined space, generators can produce high levels of CO within minutes. When you use a portable generator, remember that you cannot see or smell CO. Even if you do not smell exhaust fumes, you may still be exposed to CO.

Danger labels are required on all portable generators manufactured or imported on or after May 14, 2007.

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 kill you.

Follow these safety tips to protect against CO poisoning.

- NEVER use a generator inside homes, garages, crawlspace, sheds, or similar areas, even when using fans or opening doors and windows for ventilation. Deadly levels of carbon monoxide can quickly build up in these areas and can linger for hours, even after the generator has shut off.
- Follow the instructions that come with your generator. Locate the unit outdoors and far 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 instructions. CO alarms should be certified to the requirements of the latest safety standards (UL 2034, IAS 6-96, or CSA 6.19.01). Test batteries monthly.

Electrical Hazards

- Generators pose a risk of shock and electrocution, especially if they are operated in wet conditions. If you must use a generator when it is wet outside, protect the generator from moisture to help avoid the shock/electrocution hazard, but do so without operating the generator indoors near openings to any building that can be occupied in order to help avoid the CO hazard. Operate the generator under an open, canopy-like structure on a dry surface where water cannot reach it or puddle or drain under it. Dry your hands, if wet, before touching the generator.
- Connect appliances to the generator using heavy-duty extension cords that are specifically designed for outdoor use. Make sure the wattage rating for each cord exceeds the total wattage of all appliances connected to it. Use extension cords that are long enough to allow the generator to be placed outdoors and far away from windows, doors and vents to the home or to other structures that could be occupied. Check that the entire length of each cord is free of cuts or tears and that the plug has all three prongs. Protect the cord from getting pinched or crushed if it passes through a window or doorway.
- NEVER try to power the house wiring by plugging the generator into a wall outlet, a practice known as “backfeeding.” This is extremely dangerous and 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.

Fire Hazards

- 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.
- Before refueling the generator, turn it off and let it cool down. Gasoline spilled on hot engine parts could ignite.
Surviving the Aftermath of a Hurricane

Deadly dangers can exist after a natural disaster knocks out power or causes flooding. Here is some important safety information to keep in mind.

- Never use a portable generator indoors - including garages, basements, crawlspaces and sheds - even with ventilation. Exhaust fumes contain extremely high levels of carbon monoxide (CO) that can rapidly become deadly if inhaled.

- Only use a portable generator outdoors in a dry area away from doors, windows and vents that can allow CO to come indoors. Wait for the rain to pass before using a generator. Consumer-grade generators are not weatherproof and can pose the risk of electrocution and shock when used in wet conditions.

- If using a generator, plug individual appliances into heavy duty, outdoor-rated extension cords and plug the cords into the generator.

- Check that the extension cords have a wire gauge adequate for the appliance loads and have all three prongs, including a grounding pin.

- Never store gasoline in the home or near a fuel-burning appliance, such as a natural gas water heater, where gasoline fumes could be ignited.

- Never use charcoal indoors. Burning charcoal in an enclosed space can produce lethal levels of carbon monoxide.

- Make sure the batteries in your smoke alarm and carbon monoxide alarm are working.

- Do not use electric or gas appliances that have been wet or damaged because of the hazards of electric shock, fire, or explosion.

  - Exercise caution when using candles. Use flashlights instead. If you must use candles, do not burn them on or near anything that can catch fire. Never leave burning candles unattended. Extinguish candles when you leave the room.
CPSC Warns of Carbon Monoxide Poisoning Hazard with Camping Equipment

The U.S. Consumer Product Safety Commission (CPSC) warns consumers about the carbon monoxide (CO) hazard with camping equipment.

**CO can kill you!**

From 2002–2006, CPSC estimates that 25 people died from carbon monoxide poisoning associated with camping equipment, including grills, lanterns, and stoves.

- Do not use portable heaters or lanterns while sleeping in enclosed areas such as tents, campers, and other vehicles. This is especially important at high altitudes, where the risk of carbon monoxide poisoning is increased.

- Know the symptoms of carbon monoxide poisoning: headache, dizziness, weakness, nausea, vomiting, sleepiness, and confusion. Carbon monoxide reduces the blood's ability to carry oxygen. Low blood oxygen levels can result in loss of consciousness and death.

- See a doctor if you or a member of your family develops cold or flu-like symptoms while camping. Carbon monoxide poisoning, which can easily be mistaken for a cold or flu, is often detected too late.

- Alcohol consumption and drug use may compromise the ability to recognize symptoms of carbon monoxide poisoning.

- Carbon monoxide is especially toxic to the unborn child of a pregnant mother, infants, the elderly, smokers, and people with blood or circulatory system problems, such as anemia or heart disease.