



GAS & ELECTRIC SAFETY  
RESIDENTIAL

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# Important Information About Gas & Electric Safety at Home



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## Electric Safety

Electricity warms your home, cooks your food and operates your appliances, but if not used properly, can result in serious consequences.

In fact, the amount of electricity needed to light a small 15-watt light bulb could cause serious harm if improperly handled. Electric energy can be dangerous so be sure to use extreme care when using electrical appliances.

### Fuses and Circuit Breakers: Your Safety Valves

Fuses and circuit breakers act as safety valves to help prevent overloads to the system. They have design limits on how much current they can handle at any time. When overloaded, they're tripped, stopping the flow of electricity.

If your power goes out in all or part of your house, chances are your electrical system was overloaded. Check outside first to see if your neighbors are also having problems. If not, you'll need to change a fuse or reset the circuit breaker.

Some things to remember about fuses and circuit breakers include: become familiar with your fuse or circuit box – know where it is, which fuse or circuit covers which areas of your house (you may want to label them with masking tape). Also for fuse boxes, know what amperage (amp) your fuses are (they're marked on the top of the fuse), and keep an extra supply.

Finally, whether you blow a fuse or trip a circuit breaker, please listen to what your system is telling you. You either have a potentially dangerous short circuit or ground fault condition, or you have too many appliances on one circuit.

## Changing a Fuse

If your house is equipped with a fuse box, you might want to upgrade to a modern system that uses circuit breakers instead of fuses. Until then, to change a fuse:

1. Turn off the appliance that caused the overload.
2. Shut off the main breaker (the switch located on the side of the fuse box).
3. If your fuse panel is located in a room or area that will be dark when the main breaker is turned off, ensure you have a flashlight or lantern with enough light to change the fuse.
4. Unscrew the blown fuse (look for a burned spot) and replace with one of the same amp rating. When in doubt, use 15 amps.
5. **DO NOT** wrap the fuse in aluminum foil to repair it or stick a coin in the fuse slot. This could cause a short or seriously overload the wiring, which might result in a fire, or you could get a very serious shock.
6. Turn the main breaker back on.

## Resetting a Tripped Circuit Breaker

Before resetting the circuit breaker, first correct the overload by unplugging the affected appliances. If a short or ground fault condition is the cause of the malfunction, it's safest to seek professional assistance to repair shorts or ground fault conditions. Then reset the circuit breaker by moving the handle to the "full hard OFF" position and then back to the "ON" position.

## Are You Wired for a Fire?

Today's families use more electricity than ever. However, many older homes are not properly wired for modern electrical requirements. In fact,

it is estimated that four out of five homes have inadequate wiring – a cause of one out of eight home fires.

Your home may have overloaded wiring if you answer "yes" to any of these questions:

1. Is your home more than 20 years old?
2. Do you have more than two cords plugged into any outlet?
3. Have your fuses blown or circuit breakers tripped recently?
4. Has your TV picture been shrinking or fading?  
The TV is a good voltage indicator. If your voltage is down, the problem is probably overloading.
5. Have you noticed lights dimming, electric motors that run slower, or appliance such as toasters taking longer?

If you suspect your home has inadequate wiring, you should have a licensed electrician evaluate whether the problem is serious enough to necessitate re-wiring. In the meantime, stagger your use of electrical appliances so your system doesn't have to handle everything at once, and unplug appliances that you don't use all the time.

## Protecting Sensitive Appliances

SDG&E® works every day to deliver the energy you need. But some factors that can cause electrical outages – high winds, storms and traffic accidents – are out of our control.



During an outage, you should unplug sensitive equipment such as computers, televisions and microwave ovens to help prevent them from coming on unexpectedly. It's also a good idea to turn off major appliances like washers or air conditioners; but leave one light "on" so you will know when the power has been restored.



Power fluctuations can also cause problems for sensitive electric equipment. For protection against transient voltage or spikes, consider purchasing a Transient Voltage Surge Suppressor (TVSS). They help prevent voltage disturbance from reaching electronic equipment by grounding the excess energy of a surge. Be sure to look for a TVSS marked with the words "Transient Voltage Surge Suppressor," that has been tested and listed by a nationally recognized testing laboratory (NRTL). Look for the testing laboratory marking on the appliance, such as the UL, CSA, ETL, or AGA.

Another option to consider is installing an Uninterruptible Power Supply (UPS) that automatically switches to battery power when an outage occurs, providing continuous power to your computer or other critical appliances during an outage.

## Tips for Playing it Safe with Power

With regards to electricity, the term "ground" means having an electrical connection to earth. If you come between electricity and the ground, you become the path through which the electricity travels – and that could shock, burn or even kill you. The following tips will tell you how to help avoid harmful occurrences.

### Appliance Safety

- ▶ Many appliances must be "grounded" with a three-prong plug or by a separate wire from the appliance to the main grounding system (sometimes metallic plumbing), or both.
- ▶ If an appliance isn't operating properly or gives you the lightest shock, disconnect it and call a service technician right away.
- ▶ Water is an excellent conductor of electricity. Never touch an electrical appliance when you're in, on or near water or a damp surface.
- ▶ When using an appliance with a detachable cord, always unplug the appliance from the wall before unplugging the cord from the appliance. Any cord connected to a wall socket is "energized" and you could get burned.
- ▶ Replace, don't repair, worn or frayed electrical cords.
- ▶ Never attempt to repair appliances while they're still plugged in.
- ▶ Keep cords away from hot appliances.
- ▶ Pull the plug itself, not the cord attached to it.
- ▶ Don't run cords under rugs where they'll become worn by foot traffic, and you won't be able to notice damage to the cord.
- ▶ Keep appliances clean, especially those that gather flammable material such as lint or grease.

- ▶ Outlets that are located next to sinks, tubs or outdoors should be equipped with Ground Fault Interrupter (GFI) outlets. These outlets are designed to open up the circuit quicker than a breaker or fuse if something you're handling comes in contact with water.



### Power Tools

- ▶ Make sure each power tool is grounded or certified double insulated.
- ▶ Keep everything as dry as possible.
- ▶ Wear rubber-soled shoes when operating power tools.
- ▶ Avoid overloads; don't use power tools when other major appliances, such as washers or dryers, are in operation.
- ▶ Unplug power tools when you're changing blades, doing minor repairs, etc., and whenever they're not in use.

### Safety in Your Attic

When properly installed, loose-fill attic insulation can conserve energy safely. But if improperly installed, it could cause a potential safety hazard. If you have loose-fill insulation installed or use your attic for storage, check regularly to make sure there's no danger.

Make sure the insulation doesn't come in contact with any heat producing item, like a light fixture, chimney or doorbell transformer. A minimum of three inches of horizontal clearance and 11 inches of vertical clearance above the insulation is required. Also, insulation should be clear from all bare wires, wiring, eaves and attic vents. You can use small blocks of wood to make sure the insulation is clear from any heat source.

Contact your insulation contractor for assistance if you have any questions about your installation.

### Portable Generators

**Never** connect a portable electric generator or connect a motorhome/RV generator to your home's electrical system during a power outage. Under the law, you are responsible for making sure your generator's electricity doesn't feed back into SDG&E's power lines. Failure to do so can cause serious injuries or death.

If a generator is needed to operate your home or business, please notify SDG&E at

**1-800-411-7343.**

### Outdoor Safety

#### Call Before You Dig

Locate your gas and underground power lines **FIRST** before you dig. Call **811** from any phone – at least 48 hours before digging. SDG&E will come and mark the location of gas and electric lines for free.



**Know what's below.  
Call before you dig.**

## Outdoor Safety Tips

Outside, you're surrounded by conductors: water, power lines, metal ladders, TV antennas, etc. So when you're outdoors, use all your indoor electric safety rules as well as the following:

- ▶ Never use indoor appliances, such as tools, lamps, etc., outside.
- ▶ Never use an electric appliance outside when it's raining or even just damp.
- ▶ When repairing roofs, painting, trimming trees or washing windows, stay away from overhead power lines, guy wires and TV antennas. If trees are actually in overhead lines, SDG&E's tree-trimming crew may be able to help, call **1-800-411-7343** for information.
- ▶ Keep all electrical appliances at least 10 feet from a pool.
- ▶ When putting up a TV or radio antenna, make sure you and the antenna are twice as far from any power lines as the length of the antenna. The same rule applies to drain pipes, flag poles or any long metal object.
- ▶ If you're using an aluminum ladder outside, keep yourself, your tools and your ladder well away from power lines.
- ▶ Keep kites far away from power lines.
- ▶ Clean your pool cautiously, especially when you're using aluminum poles. Stay clear of power lines.
- ▶ Make sure you and your children know to stay away from wires, electrical equipment substations,



etc. They're dangerous and are off-limits for play. The same goes for the large green transformer boxes you often see in someone's front yard. If you find a transformer box unlocked or open, call SDG&E at **1-800-411-7343** immediately.

- ▶ Never release mylar balloons outside, they can cause a power outage.
- ▶ Electric bonding to or use of SDG&E gas service piping, gas risers or meter facilities for electric grounding is not permitted. Use caution when touching gas meters. Faulty household appliances or faulty household electrical wiring could inadvertently introduce electricity to gas facilities.

## Holiday Electric Safety Tips

Many people put a lot of energy into brightening the holiday season. That usually means using more gas and electricity. Here are some safety tips to help keep your holidays bright:



- ▶ Buy only lights listed with an NRTL marking.
- ▶ Before using, check all tree lights for frayed cords, loose connections, broken sockets, etc.
- ▶ Never use indoor lights outside.
- ▶ Don't let tree light bulbs touch needles and branches.
- ▶ Keep your tree in water and your light cords out of it.
- ▶ Never use electric lights on a metallic tree; use colored directional lights instead.
- ▶ Don't plug all your holiday lights into one socket.
- ▶ Turn off lights when you leave the house or go to bed.
- ▶ Attach outdoor lights with hooks. Don't hammer nails or tacks through cords.
- ▶ Don't string outdoor lights when it's wet outside.

## Natural Gas Safety

Natural gas is a clean, efficient way to heat your home, cook your food and dry your clothes. And it's completely safe if you use your head – and nose to guard against potentially dangerous gas leaks.

If you smell a natural gas odor:

- ▶ DON'T use ANY phones in your house.
- ▶ Call SDG&E at **1-800-611-7343** using a neighbor's phone, a cell phone from outside your home, or a pay phone.
- ▶ Call the Fire Department if you can't reach SDG&E.
- ▶ DON'T panic.
- ▶ DON'T light a match, candle or cigarette.
- ▶ DON'T turn electrical appliances or lights on or off.



## Signs of a Gas Leak

It's important to know that any of the following signs may indicate the presence of a gas leak. Though rare, natural gas leaks can occur due to natural disasters, damage by third-party contractors or hidden corrosion. For your protection, SDG&E adds a distinctive odor to natural gas, so leaks can be more readily detected. However, you should not rely on your sense of smell alone to determine if there is a gas leak. Signs of a leak may include:

- ▶ The distinctive odor of natural gas.
- ▶ A damaged connection to a gas appliance.

- ▶ A hissing, whistling or roaring sound near a gas appliance or a pipeline. Special markers show the general, but not exact location of most major pipelines.
- ▶ Dead or dying vegetation (in an otherwise moist area) over or near pipeline areas.
- ▶ A fire or explosion near a pipeline.
- ▶ Dirt or water being thrown in the air.
- ▶ Exposed pipeline after an earthquake, fire, flood or other disaster.

Some persons may not be able to smell the odor because they have a diminished sense of smell, olfactory fatigue or because the odor is being masked by other odors in the area. In addition, odor fade (loss of odorant) can cause the odorant to diminish so that it's not detectable. Odor fade can occur because of certain pipe conditions. Also, if a natural gas leak occurs underground, the surrounding soil may cause odor fade. Do not rely on your sense of smell alone to detect the presence of natural gas. For more information on odor fade please contact us at **1-800-611-7343** or visit [sdge.com/safety](http://sdge.com/safety).

## Carbon Monoxide

Well-maintained appliances are more energy efficient and can help save you money on your monthly energy bill. To safely and efficiently operate your appliances, a licensed heating or plumbing contractor, or SDG&E should check your gas appliances every year. Failure to perform such routine annual maintenance on your gas appliances may result in dangerous exposure to carbon monoxide.

When incomplete combustion occurs in the gas appliances in your home, carbon monoxide is produced, and this can lead to carbon monoxide poisoning. The early stages of carbon monoxide poisoning produce unexplained flu-like symptoms, such as headaches, dizziness, nausea, vomiting, shortness of breath and mental confusion. Since carbon monoxide displaces the oxygen in the blood, prolonged exposures to carbon monoxide can even lead to death by asphyxiation.

Signs that may indicate the presence of carbon monoxide include:

- ▶ Yellow, large and unsteady burner flame in the gas appliance (with the exception of decorative gas log appliances).
- ▶ An unusual pungent odor when the appliance is operating.
- ▶ Unexplained nausea, drowsiness and flu-like symptoms.

If you suspect the presence of carbon monoxide:

1. Immediately turn off and stop using the suspected gas appliance.
2. Seek medical attention if you or a member of your family is experiencing possible carbon monoxide poisoning symptoms.
3. Contact a licensed heating or plumbing contractor or SDG&E immediately to have the appliance inspected.
4. Don't use the suspected gas appliance until it has been inspected, serviced and determined to be safe by an expert.

## Gas Appliance Safety

These gas safety tips will help you play it safe around natural gas in your home.

- ▶ Most forced-air furnaces have a filter that cleans the air before heating and circulating it throughout the home. The filter should be checked monthly for lint build-up during periods of furnace use and cleaned or replaced if necessary.
- ▶ Never use your gas oven, range or outdoor barbeque to heat your home because they are not designed for that purpose.
- ▶ Keep grease away from gas range burners.
- ▶ Never use water on a grease fire. Smother it with a fire extinguisher or baking soda.
- ▶ Never store or use flammable products such as gasoline, paint thinner or cleaning products in the same room or near any gas or heat-producing appliance.
- ▶ Know where the shutoff valves are on gas appliances and locate the main valve near your meter.
- ▶ Gas appliance maintenance is always the homeowner's responsibility. However, SDG&E will perform gas appliance safety checks upon request.



## How to Handle Emergencies

Be prepared. Don't panic. List this SDG&E emergency number wherever you keep phone numbers for the police, fire department, etc., **1-800-611-7343**.

### Gas and Electric Emergencies

#### Electrical Fire

- ▶ NEVER use water to put out an electrical fire. Unplug the appliance if you can do so safely and use a fire extinguisher or baking soda.

#### Downed Power Lines

- ▶ Don't touch and stay far away! Call 911 and SDG&E. Warn others to keep away.

#### Car accident

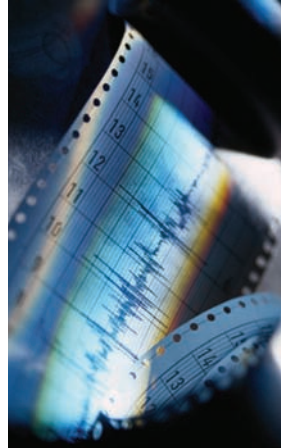
- ▶ If a car hits a power pole, knocks down lines or breaks a gas main, call 911 and SDG&E immediately. Never try to open a car door if there are live wires around. You could be electrocuted! If there's a gas leak, don't start the car or there may be an explosion. Also, remember not to smoke or use any open flames (such as flares).

#### Shock

- ▶ Don't touch the person or the equipment involved. If possible to do so safely, shut off power. A trained rescuer such as a fireman or an SDG&E worker should rescue someone from energized wires or equipment. You shouldn't attempt to remove a victim from energized wires or appliances unless you have been given appropriate training.

You should assume that all electric wires are "live" or energized unless: You personally know they've been disconnected and the wires or circuit are grounded; and they can't be reconnected without your knowledge.

Once clear of the wires or appliances, call 911 for immediate medical aid. Keep the person warm and lying down. If the person's face is pale, raise the feet slightly; if the face is red, keep the head slightly elevated. If not breathing, give cardiopulmonary resuscitation (CPR).



### Earthquakes and Energy

During an earthquake gas lines may break and electric lines may be pulled down. Following an earthquake, stay away from downed lines and be alert for gas leaks. It might take emergency crews some time to fix all the damage, so be patient.

Around your home, turn the gas off at the meter only if you smell natural gas. If you turn the gas off, don't attempt to turn it back on – have a licensed plumber or SDG&E turn it back on and relight all the pilots. Turning the electricity off at the circuit breakers or fuse box is also a good idea if there's damage in your home.

Earthquakes can also cause improperly secured water heaters to move or topple. To help prevent this, strap them firmly to the wall studs in two places – the upper and lower one-third of the tank – with heavy bolts and metal tape. Be sure to place the lower strap at least four inches above the thermostat controls. Kits are often available at your local hardware store. The state of California requires all new and replacement water heaters be strapped to resist movement.





Here for you, every day.<sup>SM</sup>

P.O. BOX 129831 SAN DIEGO, CA 92112-9831

**1-800-411-7343**

[www.sdge.com/safety](http://www.sdge.com/safety)