



Natural gas safety



PowerHouse.

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Did you know that almost 75 percent of American homes are heated with natural gas?

Natural gas is one of the safest, cleanest and most efficient forms of energy available — but like electricity, we need to respect its dangers.

We want you to get the most value from your natural gas, and that includes helping you use it safely. In this brochure, you'll find great tips on:

- Using and maintaining your gas appliances
- Responding to a natural gas emergency
- Preventing carbon monoxide poisoning



What is natural gas?

Natural gas was formed deep in the earth during the dinosaur age. Wells and pumps bring it closer to the surface, and it comes to our homes through millions of miles of underground pipeline. Although natural gas is primarily used as a fuel, it's also used in manufacturing plastics, fabrics and other consumer products.

In its normal state, natural gas is colorless and odorless, so utility companies like Alliant Energy add a distinctive odor — such as rotten eggs or skunk — to make sure even the smallest leaks are detected easily.

Natural gas, and other combustible fuels like liquid propane, require an adequate amount of oxygen to burn properly. With enough oxygen, the natural gas will burn cleanly, with virtually no soot or ash; if the oxygen supply is restricted, an excessive amount of soot or ash will be produced, and the danger of carbon monoxide increases (see page 9 & 10).



Using natural gas appliances

When you think of a gas appliance, you might picture a pilot light — and relighting it often. But most newer appliances have electronic ignitions that eliminate the need for a continuously-burning pilot light — saving you energy and reducing the dangers of lighting the pilot.

As with any type of energy, the key to safety is common sense, but there are a few special rules to keep in mind with natural gas:

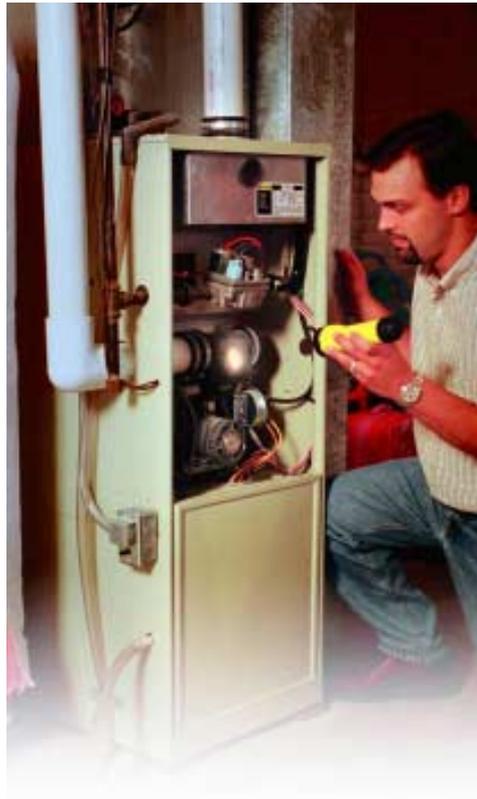
- Leave at least a one-inch air flow all the way around a gas appliance.
- Keep paints, papers, aerosol sprays and other flammables away from gas appliances.
- Never store or stack boxes, laundry or other materials around the base of a gas appliance.
- Make sure the vent hood, pipes and flues aren't blocked, cracked or corroded.
- Don't let kids play on or around the gas meter or any gas appliance, and don't let them hang or swing from indoor gas pipes.
- When using a gas range, keep long sleeves, towels and potholders away from the open flame.

The most important rule is to use a gas appliance only for its intended purpose. Never try to use a gas oven or range to heat a

room — the appliance will “suck” all the oxygen out of the air, causing asphyxiation and even death.

If you’re buying a new gas appliance, it’s best to have it professionally installed. This ensures that all connections are secure, all vent pipes and flues are clean and undamaged, and that the appliance is adjusted properly.

In almost all cases, a natural gas appliance will be more energy efficient and cost less to operate than an electric model – the \$50 price difference can be paid back in energy savings in less than two years.



Good flame or bad flame?

One quick way to tell if your natural gas appliance is getting enough oxygen and is adjusted properly is to check the color of the flame on the pilot light.

A pilot light should be about 90 percent blue. A yellow flame indicates the appliance isn't working right and is giving off harmful fumes — have it checked by a professional as soon as possible.

But keep in mind that not all problems with gas appliances will have the symptom of a yellow pilot light. You should also look out for excessive ash or soot around a pilot light opening or air ducts, lengthy “warm-up” times, and, of course, strange noises or odors.



Check your connections

If you have an older gas appliance, especially an oven or clothes dryer, take a moment to check the connectors linking the appliance to the gas line. Flexible metal connectors, especially those made of uncoated brass, can weaken or crack over time, causing a leak.

If your appliance has these types of connectors, have them replaced with new ones made of either stainless steel or plastic-coated metal. Look for connectors that conform to the American National Standards Institute and are certified by the American Gas Association.

Replace the connectors yourself only if you can reach them easily. If you can't tell what kind of connectors are used, or if you can't see the connectors, call your plumbing and heating dealer to inspect the appliance.



Call before you dig

If you're planning to do any outdoor work, such as landscaping, installing a fence or building a deck, be sure to call before you dig. Just dial the number below for your state at least three days before you start, and the area "one-call" office will send a utility worker to mark the location of underground lines on your property.

- Wisconsin: 1-800-242-8511
- Iowa: 1-800-292-8989
- Minnesota: 1-800-252-1166
- Illinois: 1-800-892-0123

When you start digging, try to stay at least 18 inches away from the marked lines. If you're planting a tree, remember to consider the length of the roots as the tree matures, and don't plant larger trees under power lines.



Responding to a natural gas emergency

A natural gas leak will smell like rotten eggs or skunk. If the odor is faint, check pilot lights and range burners. If the odor is strong or comes on suddenly, get everyone out of the house immediately.

Don't stop to open window, and don't touch anything that might create a spark, such as a light or even a telephone. If possible, stay away from carpeted areas to avoid sparks of static electricity.

Do not try to find the source of the leak yourself. Call your utility company from a neighbor's phone right away; if someone is ill or if there's an open flame anywhere in the area, call 911.

9-1-1



The dangers of carbon monoxide

Ideally, natural gas burns in an appliance completely and efficiently, mixing with the oxygen in the air to produce harmless carbon dioxide (CO₂) and water vapor. But if conditions aren't right, the natural gas won't combust completely, giving off deadly fumes of carbon monoxide (CO).

An appliance could produce carbon monoxide if:

- Boxes, laundry or other materials are blocking the base, restricting oxygen flow.
- The vent hood, pipes or flues are blocked, cracked or corroded.
- It's installed or adjusted improperly.
- It's used incorrectly (i.e., heating a room with a gas stove).

Install a carbon monoxide detector near the sleeping areas of your home and test regularly.



When humans (and pets) breathe in carbon monoxide, it enters the bloodstream and depletes oxygen from the blood cells. If exposure continues over a long period of time (overnight, for example), it can cause brain damage or even death. Carbon monoxide can be especially dangerous during the winter, when our homes are closed up.

The symptoms of CO poisoning mimic the flu, so watch out for these warning signs:

- Headache
- Nausea or vomiting
- Dizziness or disorientation
- Muscle weakness or fatigue
- Difficulty waking

If the flu-like symptoms are not accompanied by fever, if everyone in the family is ill, or if the symptoms disappear when you leave the house, you might have a CO problem in your home. Have your appliances checked by a professional right away.

You can prevent CO poisoning by using your appliances correctly and keeping them well-maintained, and by installing a quality CO detector in your home. Carbon monoxide rises because it's lighter than air, so place the detector in upper levels of your home near bedrooms or sleeping areas. If your CO detector's alarm sounds, open window and doors, and check the pilot lights on all appliances (see page 5). If the alarm continues to sound, shut off all appliances, leave the house and call a service professional right away.

For more
information

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