

# Emergency Heating & Cooking

## HEATING

Coal stores well if kept in a dark place and away from moving air. Air speeds deterioration and breakdown, causing it to burn more rapidly. Coal may be stored in a plastic-lined pit or in sheds, bags, boxes, or barrels and should be kept away from circulating air, light, and moisture. Cover it to lend protection from weather and sun.

## Wood

Hardwoods such as apple, cherry, and other fruit woods are slow burning and sustain coals. Hardwoods are more difficult to burn than softer woods, thus requiring a supply of kindling. Soft woods such as pine and cedar are light in weight and burn very rapidly, leaving ash and few coals for cooking. If you have a fireplace or a wood/ coal burning stove, you will want to store several cords of firewood. Firewood is usually sold by the cord which is a neat pile that totals 128 cubic feet. This pile is four feet wide, four feet high, and eight feet long. Some dealers sell wood by the ton. As a general rule of thumb, a standard cord of air-dried dense hardwood weighs about two tons and provides as much heat as one ton of coal. Be suspicious of any alleged cord delivered in a 1/2 or 3/4 ton pickup truck.

For best results, wood should be seasoned (dried) properly, usually at least a year. A plastic tarp, wood planks, or other plastic or metal sheeting over the woodpile is useful in keeping the wood dry. Other types of fuels are more practical to store and use than wood or coal.

Newspaper logs make a good and inexpensive source of fuel. You may prepare the logs in the following manner:

Use about eight pages of newspaper and open flat. Spread the stack, alternating the cut sides and folded sides. Place a 1" wood dowel or metal rod across one end and roll the paper around the rod very tightly. Roll it until there are 6-8 inches left to roll, then slip another 8 pages underneath the roll

Continue this procedure until you have a roll 4-6 inches in diameter. With a fine wire, tie the roll on both ends. Withdraw the rod. Your newspaper log is ready to use. Four of these logs will burn about 1 hour.

**Propane** is another excellent fuel for indoor use. Like kerosene, it produces carbon dioxide as it burns and is therefore not poisonous. It does consume oxygen so be sure to crack a window when burning propane.

Propane stores indefinitely, having no known shelf life. Propane stoves and small portable heaters are very economical, simple to use, and come the closest to approximating the type of convenience most of us are accustomed to using on a daily basis.

The storage of propane is governed by strict local laws. In this area you may store up to 1 gallon inside a building and up to 60 gallons stored outside. If you store more than these amounts, you will need a special permit from the fire marshal.

The primary hazard in using propane is that it is heavier than air and if a leak occurs it may “pool” which can create an explosive atmosphere. Furthermore, basement natural gas heating units CANNOT be legally converted for propane use. Again, the vapors are heavier than air and form “pockets.” Ignition sources such as water heaters and electrical sources can cause an explosion.

**White gas** (Coleman fuel). Many families have camp stoves which burn Coleman Fuel or white gasoline. These stoves are fairly easy to use and produce a great amount of heat. However, they, like charcoal, produce vast amounts of carbon monoxide. **NEVER use a Coleman Fuel stove indoors.** It could be a fatal mistake to your entire family.

Never store fuels in the house or near a heater. Use a metal store cabinet which is vented on top and bottom and can be locked.

**Kerosene** (also known as Range Oil No. 1) is the cheapest of all the storage fuels and is also very forgiving if you make a mistake. Kerosene is not as explosive as gasoline and Coleman fuel. Kerosene stores well for long periods of time and by introducing some fuel additives it can be made to store even longer. However, do not store it in metal containers for extended time periods unless they are porcelain

lined because the moisture in the kerosene will rust through the container causing the kerosene to leak out.

Most hardware stores and home improvement centers sell kerosene in five gallon plastic containers which store for many years. A 55 gallon drum stores in the back yard, or ten 5 gallon plastic containers will provide fuel enough to last an entire winter if used sparingly.

**Caution:** To burn kerosene you will need a kerosene heater. There are many models and sizes to choose from but remember that you are not trying to heat your entire home. The larger the heater the more fuel you will have to store. Most families should be able to get by on a heater that produces about 9,600 BTUs of heat, though kerosene heaters are made that will produce up to 25,000 to 30,000 BTUs. If you have the storage space to store the fuel required by these larger heaters they are excellent investments, but for most families the smaller heaters are more than adequate. When selecting a kerosene heater be sure to get one that can double as a cooking surface and source of light. Then when you are forced to use it be sure to plan your meals so that they can be cooked when you are using the heater for heat rather than wasting fuel used for cooking only.

When kerosene burns it requires very little oxygen, compared to charcoal. You must crack a window about 1/4 inch to allow enough oxygen to enter the room to prevent asphyxiation. During combustion, kerosene is not poisonous and is safe to use indoors. To prevent possible fires, you should always fill it outside. The momentary incomplete combustion during lighting and extinguishing of kerosene heaters can cause some unpleasant odors. To prevent these odors from lingering in your home always light and extinguish the heater out of doors. During normal operation a kerosene heater is practically odorless.

**Charcoal.** Never use a charcoal burning device indoors. When charcoal burns it is a voracious consumer of oxygen and will quickly deplete the oxygen supply in your little “home within a home.” Furthermore, as it burns it produces vast amounts of carbon monoxide which is a deadly poison. If you make the mistake of trying to heat your home by burning charcoal it could prove fatal to your entire family. Never burn charcoal indoors.

## Cooking

To conserve your cooking fuel storage needs always do your emergency cooking in the most efficient manner possible. Don't boil more water than you need, extinguish the fire as soon as you finished, plan your meals ahead of time to consolidate as much cooking as possible, during the winter cook on top of your heating unit while heating your home, and cook in a pressure cooker or other fuel-efficient container as much as possible. Keep enough fuel to provide outdoor cooking for at least 7-10 days.

It is even possible to cook without using fuel at all. For example, to cook dry beans you can place them inside a pressure cooker with the proper amount of water and other ingredients needed and place it on your heat source until it comes up to pressure. Then turn off the heat, remove the pressure cooker and place inside a large box filled with newspapers, blankets, or other insulating materials. Leave it for two and a half hours and then open it, your meal will be done, having cooked for two and a half hours with no heat. If you don't have a large box in which to place the pressure cooker, simply wrap it in several blankets and place it in the corner.

Store matches in waterproof airtight tin with each piece of equipment that must be lit with a flame.

**Sterno fuel**, a jellied petroleum product, is an excellent source of fuel for inclusion in your back pack as part of your 72-hour kit. Sterno is very light weight and easily ignited with a match or a spark from flint and steel but is not explosive. It is also safe for use indoors. A Sterno stove can be purchased at any sporting goods store and will retail between \$3 and \$8, depending upon the model you choose. They fold up into a very small, compact unit ideal for carrying in a pack. The fuel is readily available at all sporting goods stores and many drug stores. One can of Sterno fuel, about the diameter of a can of tuna fish and twice as high, will allow you to cook six meals if used frugally. Chafing dishes and fondue pots can also be used with Sterno.

Sterno is not without some problems. It will evaporate very easily, even when the lid is securely fastened. If you use Sterno in your 72-hour kit you should check it every six to eight months to insure that it has not evaporated beyond the point of usage. Because of this problem it is not a good fuel for long-term storage. It is a very expensive fuel to use compared to others fuel available, but is extremely convenient and portable.

**Coleman fuel** (white gas), when used with a Coleman stove is another excellent and convenient fuel for cooking. It is not as portable nor as lightweight as Sterno, but produces a much greater BTU value. Like Sterno, Coleman fuel has a tendency to evaporate even when the container is tightly sealed so it is not a good fuel for long-term storage. Unlike Sterno, however, it is highly volatile; it will explode under the right conditions and should therefore never be stored in the home. Because of its highly flammable nature great care should always be exercised when lighting stoves and lanterns that use Coleman fuel. Many serious burns have been caused by carelessness with this product. Always store Coleman fuel in the garage or shed, out of doors.

**Charcoal** is the least expensive fuel per BTU that the average family can store. Remember that it must always be used out of doors because of the vast amounts of poisonous carbon monoxide it produces. Charcoal will store for extended period of time if it is stored in air tight containers. It readily absorbs moisture from the surrounding air so do not store it in the paper bags it comes in for more than a few months or it may be difficult to light. Transfer it to airtight metal or plastic containers and it will keep almost forever.

Fifty or sixty dollar's worth of charcoal will provide all the cooking fuel a family will need for an entire year if used sparingly. The best time to buy briquettes inexpensively is at the end of the summer. Broken or torn bags of briquettes are usually sold at a big discount. You will also want to store a small amount of charcoal lighter fluid (or kerosene). Newspapers will also provide an excellent ignition source for charcoal when used in a funnel type of lighting device.

To light charcoal using newspapers use two or three sheets, crumpled up, and a #10 tin can. Cut both ends out of the can. Punch holes every two inches around the lower edge of the can with a punch-type can opener (for opening juice cans). Set the can down so the punches holes are on the bottom. Place the crumpled newspaper in the bottom of the can and place the charcoal briquettes on top of the newspaper.

Lift the can slightly and light the newspaper. Prop a small rock under the bottom edge of the can to create a a good draft. The briquettes will be ready to use in about 20-30 minutes. When the coals are ready remove the chimney and place them in your cooker. Never place burning charcoal directly on concrete or cement because the heat will crack it. A wheelbarrow or old metal garbage can lid makes an excellent container for this type of fire.

One of the nice things about charcoal is that you can regulate the heat you will receive from them. Each briquette will produce about 40 degrees of heat. If you are baking bread, for example, and need 400 degrees of heat for your oven, simply use ten briquettes.

To conserve heat and thereby get the maximum heat value from your charcoal you must learn to funnel the heat where you want it rather than letting it dissipate into the air around you. One excellent way to do this is to cook inside a cardboard oven. Take a cardboard box, about the size of an orange crate, and cover it with aluminum foil inside and out. Be sure that the shiny side is visible so that maximum reflectivity is achieved. Turn the box on its side so that the opening is no longer on the top but is on the side. Place some small bricks or other noncombustible material inside upon which you can rest a cookie sheet about two or three inches above the bottom of the box. Place ten burning charcoal briquettes between the bricks (if you need 400 degrees), place the support for your cooking vessels, and then place your bread pans or whatever else you are using on top of the cookie sheet. Prop a foil-covered cardboard lid over the open side, leaving a large crack for air to get in (charcoal needs a lot of air to burn) and bake your bread, cake, cookies, etc. just like you would in your regular oven. Your results will amaze you.

To make your own charcoal, select twigs, limbs, and branches of fruit, nut and other hardwood trees; black walnuts and peach or apricot pits may also be used. Cut wood into desired size, place in a large can which has a few holes punched in it, put a lid on the can and place the can in a hot fire. When the flames from the holes in the can turn yellow-red, remove the can from the fire and allow it to cool. Store the briquettes in a moisture-proof container. **Burn charcoal only in a well-ventilated area.**

**Wood and Coal.** Many wood and coal burning stoves are made with cooking surface. These are excellent to use indoors during the winter because you may already be using it to heat the home. In the summer, however, they are unbearably hot and are simply not practical cooking appliances for indoor use. If you choose to build a campfire on the ground outside be sure to use caution and follow all the rules for safety. Little children, and even many adults, are not aware of the tremendous dangers that open fires may pose.

**Kerosene.** Many kerosene heaters will also double as a cooking unit. In fact, it is probably a good idea to not purchase a kerosene heater that cannot be used to cook on as well. Follow the same precautions for cooking over kerosene as was discussed under the section on heating your home with kerosene.

**Propane.** Many families have propane camp stoves. These are the most convenient and easy to use of all emergency cooking appliances available. They may be used indoors or out. As with other emergency fuel sources, cook with a pressure cooker whenever possible to conserve fuel.