

Disaster Relief

Preparing Food During a Power Failure

Cooking and eating habits must change to fit the situation during a power failure. You may have no heat, no refrigeration, and limited water. Health risks from contaminated or spoiled foods may increase.

Plan Ahead

Below are some quick-to-prepare canned foods that do not need to be cooked or refrigerated before opening. You can store all canned foods for up to one year without loss of quality. Freeze-dried and dehydrated items, if kept dry, can be stored indefinitely.

In addition to food, stock at least 10 gallons of drinking water — enough to reconstitute at least 4 quarts of dry milk per day for at least a week — and for other drinking purposes.

Nonperishable Canned Foods

*Main-Dish Items**

beef chili with beans
chicken a la king
chicken and dumplings
macaroni and cheese
pork and beans
pork luncheon loaf
potted meat
ravioli
refried beans
salmon
sardines
spaghetti and meatballs
tuna
Vienna sausage
chicken stew
corned beef
ham loaf

Fruits and Juices

applesauce
fruit cocktail
peaches
pears
pineapple
plums
fruit juices

*Vegetables**

beans, all types
blackeyed peas
carrots
corn
green peas
hominy
mixed vegetables
mustard greens
okra
sweet potatoes, yams
tomatoes, tomato juice
turnip greens
yellow squash
zucchini

Dehydrated Foods (you only have to add water or some form of reconstituted milk)

instant breakfast
instant chocolate drink powder
instant puddings
nonfat dry milk powder

Ready-To-Eat Foods

bottled hot sauce
bottled salad dressing
catsup
cheese spreads (in jars)
corn chips
cookies
crackers
dry cereals
evaporated milk
graham crackers
mustard
packaged taco shells
peanut butter
preserves
raisins
salt, pepper
tartar sauce
Spanish peanuts
sugar, honey
vinegar
Worcestershire sauce

*It is best to avoid home-canned vegetables, since you must bring these vegetables to a rolling boil, cover, and boil for 10 minutes before using (20 minutes for spinach and corn, 10 minutes for others).

When preparing food during a power outage, follow these guidelines.

Save Fuel

Consider the amount of cooking time needed for particular foods. If you have limited heat for cooking, choose foods that cook quickly. Prepare casseroles and one-dish meals, or serve no-cook foods. Here are alternative cooking methods you can use:

- **Fireplace** – Many foods can be skewered. This can be done by wrapping the food in foil and placing it in the hot coals; cook on a wire grill over the flames. Or cook over the flames in heavy cookware, such as cast iron or heavy aluminum. A Dutch oven is probably the best piece of cookware, because you can use it to bake, boil, stew, or pan fry.
- **Electric utensils** – If gas is cut off but you still have electricity, use electric plates, or coffee makers to heat food.
- **Candle warmers** – You can use devices with candle warmers, such as fondue pots or chaffing dishes if no other heat sources are available.
- **Outdoor grills** – You can cook on outdoor grills, but use the grills outside. Do not use them in closed areas, not even in a garage.
- **Fuel burning camp stoves and charcoal burners** – Use these cookers outdoors only. Never use fuel-burning camp stoves or charcoal burners inside your home, even in a fireplace. Fumes from these stoves can be deadly.

Do not cook frozen foods unless you have enough heat for cooking. Some frozen foods require much more cooking time and heat than canned goods. Also, if power is off, it is best to leave the freezer door closed to keep food from thawing.

You can eat commercially canned foods straight from the can. Do not use home canned vegetables unless you can boil them for 10 minutes before eating.

Save Water

- Save liquids from canned vegetables. Use these liquids for water in cooked dishes.
- Drain and save juices from canned fruits. Substitute these for water in salads and drinks.

Be Safe!

Boil all water you use in food preparation for at least 10 minutes.

If you are without refrigeration, open only enough food for one meal. (Some foods can be kept a short time without refrigeration.)

Do not leave cooked vegetables, meat, or meat dishes unrefrigerated for more than two hours, includ-

ing preparation and serving time. Do not keep these dishes overnight without refrigeration. If there is snow, place covered foods in it.

If available, packaged survival or camping foods, also called Meals Ready to Eat (MRE) are safe.

Do not serve foods that spoil easily, such as ground meats, creamed foods, meat salads or custards. These foods spoil easily and are sources of food borne illness.

If necessary, substitute canned and powdered milk for fresh milk. Canned milk is safe for two hours after you open the can. If you are using canned milk to feed a baby, open a fresh can for each bottle. Use only boiled or disinfected water to mix powdered milk. Use powdered milk immediately after it is mixed.

If safe water or water disinfectant materials are not available, use canned or bottled fruit juices instead of water.

Prepare and eat foods in their original containers, if possible. This helps if dishwashing facilities are limited.

Safety of Frozen Foods

After a Power Failure or Flood

When anticipating a power failure (as before a flood warning), set the refrigerator and freezer temperature to the coldest setting to build up a cooling reserve. If floodwater enters your freezer or refrigerator, dispose of all food not sealed in metal airtight cans or glass jars.

Thawing Rate

Keep freezer door closed! With the door closed, food in most freezers will stay below 41 °F up to three days, even in summer. Open the freezer only to take out the food for moving to a locker plant or to add dry ice.

Thawing rate depends on the following:

- How much food is in the freezer. A full freezer stays cold longer than a partly-full one.
- The kind of food. A freezer filled with meat stays cold longer than a freezer filled with baked goods.
- The temperature of the food. The colder the food, the longer it will stay frozen.
- The freezer. A well-insulated freezer keeps food frozen longer than one with little insulation.
- Size of freezer. The larger the freezer, the longer food stays frozen. NOTE: Do not put hot foods in the freezer, since this will raise the temperature. Keep hot foods covered, and discard if not eaten within 2 hours. Keep meat above 140 °F.

Emergency Measures

- Keep the door closed.
- If possible, move food to a locker plant. Call the locker plant to see if it is operating and if so, whether it has room for your food.
- If space is available, wrap the food in plenty of newspapers and blankets or use insulated containers, such as camping coolers. Then rush the food to the locker plant.
- It is best to arrange well in advance with your local locker plant to take care of food in an emergency.
- If you can't take food to a locker plant, leave it in your freezer and cover the freezer with blankets, quilts or crumpled newspaper.
- Do not cover air vent openings.
- Use dry ice if it is available. Wear gloves to handle dry ice, and proceed as recommended.
- Can the food if it is possible, but do so under sanitary conditions and with proper equipment.

When Food Has Thawed

- Partial thawing and refreezing reduces the quality of foods, particularly fruits, vegetables, and prepared foods. Red meats are affected less than many other foods.
- You may safely refreeze foods if they still contain ice crystals or if they have been kept at 41 °F or below for no more than 2 days. If the temperature is above 41°F, throw food away. Foods that cannot be refrozen but are safe may be canned immediately.
- Treat thawed foods as follows:
 - Fruits – Refreeze fruits if they taste and smell good.
 - Frozen dinners – Do not refreeze frozen dinners that have thawed.
 - Vegetables – Do not refreeze thawed vegetables. Bacteria in these foods multiply rapidly. Spoilage may begin before the food smells bad. Such spoilage may be very toxic. Refreeze vegetables only if there are still ice crystals throughout the package. If you question the condition of any vegetables, discard them.
 - Meat and poultry – Meat and poultry become unsafe to eat when they start to spoil. If any package of meat has a bad or questionable odor or if the freezer temperature has reached 41 °F or higher for 2 hours or longer don't use. It may be dangerous! Discard all stuffed poultry. Immediately cook thawed but unspoiled meat or poultry. You can refreeze cooked meat.

- Fish and shellfish – These are extremely perishable. Do not refreeze unless there are ice crystals throughout the package. Seafood may be spoiled even if it doesn't smell bad.
- Ice cream – Do not refreeze melted ice cream. Discard or eat it in the liquid form before off flavor develops.
- Cook thawed frozen foods and frozen dinners immediately if they are still cold. Do not refreeze. If any foods have a bad or questionable smell, do not eat.

Using Dry Ice during a Power Failure

- If it seems likely your freezer will not be operating properly within one or two days, dry ice may help keep some frozen food from spoiling.
- The more dry ice you use, the longer the food will stay frozen.
- However, dry ice is very expensive and is not easy to get in some areas.
- If a flood is predicted and you decide to use dry ice, find a source ahead of time and get it quickly. You may be able to buy dry ice from a local dairy or cold storage warehouse, or your power company may be able to direct you to a source of dry ice.
- Follow these guidelines for using and handling dry ice:
 - Wear gloves when handling dry ice. Do not touch it with your bare hands; it causes severe frostbite and tissue damage.
 - Allow 2 to 3 pounds of ice per cubic foot of freezer space. You will need more for an upright freezer, because you will need to put ice on each shelf.
 - Move any food from the freezing compartment to the storage compartment of the freezer. Place boards or heavy cardboard on top of packages. Place dry ice on top of boards. In an upright freezer, place ice on each shelf.
 - You may cover the freezer with blankets, quilts, or some other covering, but do not lock it or cover air vent openings. It will help to put crumpled newspaper or excelsior between the cabinet and the blankets. Gas given off by the dry ice needs a place to escape. Open basement or room windows or doors to vent out gas from dry ice.

Safety of Refrigerated Food After a Power Failure

- Avoid any of the following foods that have been without refrigeration for two hours or more: meat, poultry, seafood; cooked vegetables; foods made with cream sauces or mayonnaise; cream cheese; cottage cheese; milk, custard, cream pie; melted ice cream; home-cooked vegetables unless you can boil them for 10 minutes after opening (20 minutes for spinach and corn).
- You can extend your food supply by cooking all unspoiled meat immediately. Cooked meat needs to be kept above 140 °F.
- Uncured sausage is easily contaminated because it is free of preservatives. Keep frozen until you must leave, and then cook before it thaws.
- Raw chopped meats, like hamburger, spoil quickly. Pork, fish, and poultry spoil quickly. Dispose of them if they have been in the refrigerator without power for 12 hours or more. Do not trust your sense of smell.
- Hard cheese usually keeps well at room temperatures. Other cheeses, such as cream cheese, opened containers of cheese spreads, and cottage cheese spoil quickly. Throw out when off flavor develops. If surface mold develops on blocks of cheese, slice 1 inch below and around the surface and discard.

- Milk spoils quickly without refrigeration. Throw out spoiled milk.
- Custard, gravies, creamed foods, chopped meats poultry, and seafood sandwich fillings spoil quickly when unrefrigerated and provide ideal growing places for organisms causing foodborne illness. Dispose of these foods if they have warmed to room temperatures. Spoilage is difficult to detect, since there may be no bad smell or taste.
- Commercially-made baked goods with cream fillings are not safe to take when evacuating unless you have a cold place to keep them. It is best to leave cream pies and all foods containing high protein and moisture at home unless you store them in a cooler with ice.

Important Points To Remember

- Food can become potentially hazardous if exposed to long periods without refrigeration or freezing. Bacteria and other pathogens can make you very sick if allowed to grow on food to sufficient numbers.
- You are not able to see, smell, or taste the presence of bacteria, viruses, or other harmful pathogens.
- If you are not able to meet any of the guidelines listed above, do not hesitate to discard suspected food and beverages.
- Remember, **“When in doubt, throw it out!”**