

Consumer Education and Information

January 1999

Keeping Food Safe During A Power Outage

Sooner or later, every home has a power outage. The electricity may have gone off during a snowstorm or thunderstorm, or the refrigerator may simply quit working. Whatever the cause, dealing with the food involved when the unit is off requires a knowledge of food safety.

USDA recommends the following guidelines:

KEEP THE FREEZER DOOR CLOSED.

Keep what cold air you have inside. Don't open the door any more than necessary. You'll be relieved to know that a full freezer will stay at freezing temperatures about 2 days; a half-full freezer about 1 day. If your freezer is not full, group packages so they form an "igloo" to protect each other. Place them to one side or on a tray so that if they begin thawing, their juices won't get on other food. And, if you think power will be out for several days, try to find some dry ice (see box below). Although dry ice can be used in the refrigerator, block ice is better. You can put it in the refrigerator's freezer unit along with your refrigerated perishables such as meat, poultry, and dairy items.

Handling Dry Ice

- To locate a distributor of dry ice, look under "ice" or "carbon dioxide" in the phone book.
- Buy 25 pounds of dry ice to keep a 10 cubic-foot freezer full of food safe 3 to 4 days; half full, 2 to 3 days. A full 18 cubic-foot freezer requires 50 to 100 pounds of dry ice to keep food safe 2 days; half full, less than 2 days.
- Handle dry ice with caution and in a well-ventilated area. Don't touch it with bare hand; wear gloves or use tongs.
- Wrap dry ice in brown paper for longer storage. One large piece lasts longer than small ones.
- The temperature of dry ice is -216°F ; therefore, it may cause freezer burn on items located near or touching it. Separate dry ice from the food using a piece of cardboard.

EVEN IF FOOD HAS STARTED TO THAW, SOME FOODS CAN BE SAFELY KEPT.

The foods in your freezer that partially or completely thaw before power is restored may be safely refrozen if they still contain ice crystals or are 40 ° F or below. You will have to evaluate each item separately. See the attached charts for different frozen and refrigerated foods. Generally, be very careful with meat and poultry products or any food containing milk, cream, sour cream, or soft cheese. When in doubt, throw them out.

MANY FOODS CAN BE REFROZEN WITHOUT MUCH CHANGE IN TASTE.

Partial thawing and refreezing may reduce the quality of some foods. Raw meats and poultry from the **freezer** can usually be refrozen without too much quality loss. Prepared foods, vegetables, and fruits can normally be refrozen, but there may be some quality loss. Fruit juices can be refrozen safely without much quality loss, but frozen fruit will become mushy.

In general, **refrigerated** items should be safe as long as power is out no more than 4 hours. Keep the door closed as much as possible. Discard any perishable foods (such as meat, poultry, fish, eggs, and leftovers) that have been above 40 °F for 2 hours or more, and any food that has an unusual odor, color, or texture, or feels warm to the touch.

KEEP AN APPLIANCE THERMOMETER IN THE REFRIGERATOR AND FREEZER AT ALL TIMES.

This will remove the guesswork of just how cold the unit is because it will give you the exact temperature. The key to determining the safety of foods in the refrigerator and freezer is knowing how cold they are. The refrigerator temperature should be 40 °F or below; the freezer, 0 °F or lower.

BE PREPARED for all power outages. If you live in an area where loss of electricity from summer or winter storms is a problem, you can plan ahead to be prepared for the worst.

- Stock up on shelf-stable foods – canned goods, juices, and "no-freeze" entrees.
- Plan ahead how you can keep foods cold. Buy some freeze-pak inserts and keep them frozen. Buy a cooler. Freeze water in plastic containers or store bags of ice.
- Know in advance where you can buy dry and block ice.
- Develop emergency freezer-sharing plans with friends in another part of town or in a nearby area.

These are rule-of-thumb guides. For the actual handling of specific foods, follow the instructions in the following charts. Be sure to discard any fully cooked items in either the freezer or the refrigerator that have come into contact with raw meat juices. Remember, you can't rely on appearance or odor. Never taste food to determine its safety! Some foods may look and smell fine, but if they've been at room temperature too

long, bacteria that cause foodborne illness can begin to grow very rapidly. Some types will produce toxins that are not destroyed by cooking.

REFRIGERATOR FOODS

When to Save and When to Throw It Out

General Rule: As long as the power has been out less than 2 hours, all foods will be safe.

FOOD	Held above 40 °F for over 2 hours
MEAT, POULTRY, SEAFOOD Fresh or leftover meat, poultry, fish, or seafood	Discard
Thawing meat or poultry	Discard
Meat, tuna, shrimp, chicken or egg salad	Discard
Gravy, stuffing	Discard
Lunchmeats, hot dogs, bacon, sausage, dried beef	Discard
Pizza – with any topping	Discard
Canned hams labeled "Keep Refrigerated"	Discard
Canned meats, opened	Discard
CHEESE Soft Cheeses: blue/bleu, Roquefort, brie, Camembert, colby, cottage, cream, Edam, Monterey Jack, ricotta, mozzarella, Muenster, Neufchatel	Discard
Hard Cheeses: cheddar, Swiss, Parmesan, provolone, Romano	Safe

Processed Cheeses	Safe
Shredded Cheeses	Discard
Low-fat Cheeses	Discard
Grated Parmesan, Romano, or combination (in can or jar)	Safe
DAIRY Milk, cream, sour cream, buttermilk, evaporated milk, yogurt	Discard
Butter, margarine	Safe
Baby formula, opened	Discard
EGGS Fresh eggs, hard-cooked in shell, egg dishes, egg products	Discard
Custards and puddings	Discard
CASSEROLES, SOUPS, STEWS	Discard
FRUITS Fresh fruits, cut	Discard
Fruit juices, opened	Safe
Canned fruits, opened	Safe
Fresh fruits, coconut, raisins, dried fruits, candied fruits, dates	Safe
SAUCES, SPREADS, JAMS Opened mayonnaise, tartar sauce, horseradish	Discard if above 50 °F for over 8 hrs.
Peanut butter	Safe
...	Safe

olives	
White wine Worcestershire sauce	Discard
Fish sauces (oyster sauce)	Discard
Hoisin sauce	Discard
Opened vinegar-based dressings	Safe
Opened creamy-based dressings	Discard
Spaghetti sauce, opened jar	Discard
BREAD, CAKES, COOKIES, PASTA Bread, rolls, cakes, muffins, quick breads	Safe
Refrigerator biscuits, rolls, cookie dough	Discard
Cooked pasta, spaghetti	Discard
Pasta salads with mayonnaise or vinaigrette	Discard
Fresh pasta	Discard
Cheesecake	Discard
Breakfast foods – waffles, pancakes, bagels	Safe
PIES, PASTRY Pastries, cream filled	Discard
Pies – custard, cheese filled, or chiffon	Discard
Pies, fruit	Safe
VEGETABLES Fresh mushrooms, herbs, spices	Safe
Greens, pre-cut, pre-washed, packaged	Discard

Vegetables, raw	Safe
Vegetables, cooked	Discard
Vegetable juice, opened	Discard
Baked potatoes	Discard
Commercial garlic in oil	Discard
Potato Salad	Discard

FROZEN FOOD

When to Save and When To Throw It Out

FOOD	Still contains ice crystals and feels as cold as if refrigerated	Thawed. Held above 40 °F for over 2 hours
MEAT, POULTRY, SEAFOOD Beef, veal, lamb, pork, and ground meats	Refreeze	Discard
Poultry and ground poultry	Refreeze	Discard
Variety meats (liver, kidney, heart, chitterlings)	Refreeze	Discard
Casseroles, stews, soups	Refreeze	Discard
Fish, shellfish, breaded seafood products	Refreeze. However, there will be some texture and flavor loss.	Discard
DAIRY Milk	Refreeze. May lose some texture.	Discard
Eggs (out of shell) and egg products	Refreeze	Discard

Ice cream, frozen yogurt	Discard	Discard
Cheese (soft and semi-soft)	Refreeze. May lose some texture.	Discard
Hard cheeses	Refreeze	Refreeze
Shredded cheeses	Refreeze	Discard
Casseroles containing milk, cream, eggs, soft cheeses	Refreeze	Discard
Cheesecake	Refreeze	Discard
FRUITS Juices	Refreeze	Refreeze. Discard if mold, yeasty smell or sliminess develops.
Home or commercially packaged	Refreeze. Will change in texture and flavor.	Refreeze. Discard if mold, yeasty smell or sliminess develops.
VEGETABLES Juices	Refreeze	Discard after held above 40 °F for 6 hours.
Home or commercially packaged or blanched	Refreeze. May suffer texture and flavor loss.	Discard after held above 40 °F for 6 hours.
BREADS, PASTRIES Breads, rolls, muffins, cakes (without custard fillings)	Refreeze	Refreeze
Cakes, pies, pastries with custard or cheese filling	Refreeze	Discard
Pie crusts, commercial and homemade bread dough	Refreeze. Some quality loss may occur.	Refreeze. Quality loss is considerable.

OTHER Casseroles – pasta, rice based	Refreeze	Discard
Flour, cornmeal, nuts	Refreeze	Refreeze
Breakfast items – waffles, pancakes, bagels	Refreeze	Refreeze
Frozen meal, entree, specialty items (pizza, sausage and biscuit, meat pie, convenience foods)	Refreeze	Discard