



## Guidelines for Food Safety in Power Outages

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A power outage may occur during a seasonal storm such as a tornado or flood, or may simply be caused by work being done on electric lines. Whatever the cause, the following recommendations apply to food safety in power outages.

### SAFETY RECOMMENDATIONS

**Use a Thermometer:** Keep an appliance thermometer in the refrigerator and freezer at all times to see if food is being stored at safe temperatures (34 to 45 °F for the refrigerator; 0 °F or below for the freezer). The key to determining the safety of foods in the refrigerator and freezer is how cold they are. Most foodborne illnesses are caused by bacteria that multiply rapidly at temperatures above 45 °F.

**Leave the Freezer Door Closed:** A full freezer should keep food safe about two days; a half-full freezer, about a day. Add bags of ice or dry ice to the freezer if it appears the power will be off for an extended time. You can safely refreeze thawed foods that still contain ice crystals or feel cold to the touch.

**Refrigerated Items:** These foods should be safe as long as the power is out no more than about four to six hours. Discard any perishable food that has been above 45 °F for two hours or more and any food that has an unusual odor, color or texture. Leave the door closed; every time you open it, needed cold air escapes, causing the foods inside to reach unsafe temperatures.

If it appears the power will be off more than six hours, transfer refrigerated perishable foods to an insulated cooler filled with ice or frozen gel packs. Keep a thermometer in the cooler to be sure the food stays at 45 °F or below.

**Never Taste Food to Determine Its Safety:** Some foods may look and smell fine, but if they've been at room temperature longer than two hours, bacteria able to cause foodborne illness can begin to multiply very rapidly. Some types will produce toxins, which are not destroyed by cooking and can possibly cause illness.

## POWER OUT CHART

Use the following charts to decide which foods are safe to eat when the power is restored.

### Refrigerator Foods

When to Save and When to Throw It Out	
FOOD	Held above 45 °F for over 2 hours
<p><b>MEAT, POULTRY, SEAFOOD</b> Raw or leftover cooked meat, poultry, fish, or seafood; soy meat substitutes, gravy, stuffing, broth, lunchmeats, hot dogs, bacon, sausage, dried beef</p>	Discard
<p><b>CHEESE</b> Soft Cheeses: blue/bleu, Roquefort, Brie, Camembert, cottage, cream, Edam, Monterey Jack, ricotta, mozzarella, Muenster, Neufchatel, Queso blanco fresco, Processed Cheeses, Shredded Cheeses, Low-fat Cheeses</p> <p>Hard Cheeses: Cheddar, Colby, Swiss, Parmesan, provolone, Romano, Grated Parmesan, Romano, or combination (in can or jar)</p>	Discard  Safe
<p><b>DAIRY</b> Milk, cream, sour cream, buttermilk, evaporated milk, yogurt, eggnog, soy milk, Baby formula, opened</p> <p>Butter, margarine</p>	Discard  Safe
<p><b>EGGS</b> Fresh eggs, hard-cooked in shell, egg dishes, egg products, Custards and puddings</p>	Discard
<p><b>CASSEROLES, SOUPS, STEWS</b></p>	Discard
<p><b>FRUITS</b> Fresh fruits, cut</p> <p>Fruit juices, opened, Canned fruits, opened, Fresh fruits, coconut, raisins, dried fruits, candied fruits, dates</p>	Discard  Safe
<p><b>SAUCES, SPREADS, JAMS</b> Opened mayonnaise, tartar sauce, horseradish</p> <p>Peanut butter, Jelly, relish, taco sauce, mustard, catsup, olives, pickles, Worcestershire, soy, barbecue, Hoisin sauces, Opened vinegar-based dressings</p> <p>Fish sauces (oyster sauce), Opened creamy-based dressings, Spaghetti sauce, opened jar</p>	Discard if above 50 °F for over 8 hrs.  Safe  Discard
<p><b>BREAD, CAKES, COOKIES, PASTA, GRAINS</b> Bread, rolls, cakes, muffins, quick breads, tortillas, Breakfast foods –waffles, pancakes, bagels</p> <p>Refrigerator biscuits, rolls, cookie dough, Cooked pasta, rice, potatoes, Pasta salads with mayonnaise or vinaigrette, Fresh pasta, Cheesecake</p>	Safe  Discard
<p><b>PIES, PASTRY</b> Pastries, cream filled, Pies – custard, cheese filled, or chiffon; quiche</p> <p>Pies, fruit</p>	Discard  Safe
<p><b>VEGETABLES</b> Fresh mushrooms, herbs, spices, Vegetables, raw</p> <p>Greens, pre-cut, pre-washed, packaged, Vegetables, cooked; tofu, Vegetable juice, opened, Baked potatoes, Commercial garlic in oil, Potato Salad</p>	Safe  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 45 °F for over 2 hours
<b>MEAT, POULTRY, SEAFOOD</b> Beef, veal, lamb, pork, and ground meats, Poultry and ground poultry, Variety meats (liver, kidney, heart, chitterlings), Casseroles, stews, soups	Refreeze	Discard
Fish, shellfish, breaded seafood products	Refreeze. However, there will be some texture and flavor loss.	Discard
<b>DAIRY</b> Milk, Cheese (soft and semi-soft)	Refreeze. May lose some texture.	Discard
Eggs (out of shell) and egg products	Refreeze	Discard
Ice cream, frozen yogurt	Discard	Discard
Hard cheeses	Refreeze	Refreeze
Shredded cheeses, Casseroles containing milk, cream, eggs, soft cheeses, Cheesecake	Refreeze	Discard
<b>FRUITS</b> Juices	Refreeze	Refreeze. Discard if mold, yeasty smell, or sliminess develops.
Home or commercially packaged	Refreeze. Will change texture and flavor.	Refreeze. Discard if mold, yeasty smell, or sliminess develops.
<b>VEGETABLES</b> Juices	Refreeze	Discard after held above 45 °F for 6 hours.
Home or commercially packaged or blanched	Refreeze. May suffer texture and flavor loss.	Discard after held above 45 °F for 6 hours.
<b>BREADS, PASTRIES</b> 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.
<b>OTHER</b> 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

Sources:

1. Clemson Extension, Home and Garden Information Center. Food Safety in Power Outages.

<http://hgic.clemson.edu/factsheets/HGIC3760.htm>

2. USDA/FSIS (2006), Keeping Food Safe During an Emergency.

[http://www.fsis.usda.gov/Fact\\_Sheets/keeping\\_food\\_safe\\_during\\_an\\_emergency/](http://www.fsis.usda.gov/Fact_Sheets/keeping_food_safe_during_an_emergency/)