Food Safety in Freezer Failure

When the power goes out and your freezer and refrigerator are off how do you know which foods are safe to eat? Since most foodborne illness is caused by bacteria that multiply rapidly at temperatures above 40 °F, the key to keeping foods safe is to keep them at proper temperatures. Always keep an appliance thermometer in both the refrigerator and freezer to see if food is being stored at safe temperatures (34 to 40 °F in the refrigerator, 0 °F or below in the freezer).

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 cause illness. Always properly dispose of these foods by sealing them in a plastic garbage bag or burying the food. And remember, food that is not safe for you is not safe for your pet.

Foods in the Freezer

When the power is out, a full freezer should keep food safe about two days; a half-full freezer, about one day. Add bags of ice or dry ice to the freezer if it appears the power will be off for an extended time. (Check your local telephone directory listing for "ice.") Dry ice can cause burns; therefore, do not handle dry ice with bare hands. Dry ice can be placed in a freezer wrapped in several layers of newspaper or paper bags. Allow 2½ to 3 pounds of dry ice per cubic foot of freezer space. More will be needed in an upright freezer because dry ice should be placed on each shelf.

Leave the freezer door closed. Frozen foods that have reached temperatures of 40 °F and above for more than two hours are not safe to eat. Discard these items. You may safely refreeze foods if:

- They still contain ice crystals, or
- They have not exceeded 40 °F for two hours or more, or
- They have been held at refrigerated temperatures (40 °F or less) no more than two days.

The following guide may be helpful as you make the decision about what to keep and what to throw out.

Meats, Poultry, Fish & Shellfish: Fresh meats, poultry, fish and shellfish are unsafe to eat when they start to spoil. Examine each package of food before you decide what to do with it. If the color or odor is poor or questionable, discard it. Be especially careful with ground, cubed or sliced meats and poultry, and all fish and shellfish because they are highly perishable. If they have completely thawed, it is best to discard these items.

Group meat and poultry to one side or on a tray so that if they begin to thaw, their juices will not get on other food. Be sure to discard any fully cooked items either in the freezer or the refrigerator that have come in contact with raw meat juices.

Cooked Foods: Dangerous bacteria grow rapidly in cooked foods. Do not refreeze these products if they have thawed. Dispose of them properly. Do not use or refreeze convenience and/or packaged dinners that have thawed.

Fruits: Fruits usually ferment when they start to spoil, which would not make them unsafe, but will make the flavor objectionable. Refreeze if they look and smell acceptable. Discard if mold, yeasty smell or sliminess develops.
Vegetables: Frozen vegetables that are frozen plain (with no sauce) may be cooked and refrozen if they still contain ice crystals, feel as cold as if refrigerated and show no signs of spoilage. Discard vegetables if held above 40 °F for six hours.

Breads, Cakes & Pies: Freshness will be affected in these products, but they can be refrozen unless they have become contaminated with liquid dripping from other foods as they thawed. Cream pies should be discarded.

Foods in the Refrigerator
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 40 °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 the door, needed cold air escapes causing the foods inside to reach unsafe temperatures.

If it appears the power will be off more than six hours, purchase block ice to put in the refrigerator, or 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 40 °F or below. You may choose instead to put your perishable refrigerated foods into the freezer unit, which will insulate food better and maintain a colder temperature for a longer time.

Power Out Chart
Use the following chart to decide which foods are safe to use or refreeze when power is restored.

Discard: The following foods should be discarded if kept over two hours at above 40 °F.
- Meat, poultry, fish, eggs and egg substitutes - raw or cooked
- Milk, cream, sour cream, buttermilk, soy milk and yogurt
- Soft, processed, shredded or low-fat cheeses
- Casseroles, stews or soups
- Cooked vegetables; baked potatoes
- Lunch meats and hot dogs
- Packaged, pre-cut, pre-washed greens

- Creamy-based salad dressings, oyster sauce, garlic in oil mixtures
- Spaghetti sauce, vegetable juice (opened jar)
- Custard, chiffon or cheese pies; quiche
- Cream-filled pastries
- Refrigerator biscuits, rolls, cookie dough
- Discard open mayonnaise, tarter sauce and horseradish if held above 50 °F for over eight hours.

Save: The following foods should keep at room temperature a few days. Still, discard anything that turns moldy or has an unusual odor.
- Butter or margarine
- Hard and processed cheeses
- Fresh fruits and vegetables
- Dried fruits and coconut
- Opened jars of vinegar-based salad dressing, jelly, relish, taco sauce, barbecue sauce, Worcestershire sauce, mustard, ketchup, olives, pickles, and peanut butter
- Fruit juices
- Fresh herbs and spices
- Fruit pies, bread, rolls and muffins
- Cakes, except cream cheese-frosted or cream-filled
- Flour and nuts

Source:

This information has been reviewed and adapted for use in South Carolina by P.H. Schmutz, HGIC Food Safety Specialist, and E.H. Hoyle, Extension Food Safety Specialist, Clemson University. (New 04/99. Revised 02/07.)

This information is supplied with the understanding that no discrimination is intended and no endorsement by the Clemson University Cooperative Extension Service is implied. All recommendations are for South Carolina conditions and may not apply to other areas. Use pesticides only according to the directions on the label. All recommendations for pesticide use are for South Carolina only and were legal at the time of publication, but the status of registration and use patterns are subject to change by action of state and federal regulatory agencies. Follow all directions, precautions and restrictions that are listed.