

Food Safety After a Flood

When flood waters have receded and it is safe to enter your home discard all foods, including garden produce, that have come in contact with flood water. Food can become contaminated with it is covered with flood water or if the water drips or seeps into the food. Only food in sealed, airtight metal cans that are not bulging or damaged and retort pouches (for example, flexible, shelf-stable juice or seafood pouches) that have been properly sanitized can be saved. If there is any doubt, the food should be thrown out.



Discard:

- Foods in the refrigerator and freezer should be discarded if the equipment was in flood water. If the equipment was above the water, but the power was out, see the information below on what to keep or discard.
- Food packed in foil, cellophane, paper, cloth or cardboard that came in contact with flood water. Even if contents seem dry they may be unsafe.
- Flooded meats, fish, poultry and fresh fruits and vegetables.
- Food packed in crown-capped bottles and glass or plastic jars and bottles as contamination from flood water can get under the lip of these lids and reach the food.
- Home canned foods covered with flood water. Discard the food and flats but the jars and rings can be sterilized for future use.
- Commercially canned food in metal cans that are bulging or damaged.
- Garden produce exposed to flood water is not safe to eat. Do not attempt to disinfect, save or preserve the food. If plants survive, the new produce that forms on them after the flood has receded is safe to eat. It will take about a month for the garden to become clean.

Inspect commercially processed foods in sealed, airtight metal cans and retort pouches and discard any food in damaged cans or containers. Damage is shown by swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/denting severe enough to prevent normal stacking or opening with a manual, wheel-type can opener. If there is no apparent damage the food will be safe to use after the containers have been cleaned and sanitized prior to opening. This can be done following these steps:

1. Remove labels and mark the contents on the cans with a permanent marker.
2. Wash cans in a strong detergent solution. Use a scrub brush to remove all dirt.
3. Sanitize the cans using one of these methods:
Method 1: Immerse cans 2 minutes in a bleach solution made of 1 tablespoon unscented chlorine bleach to 1 gallon safe drinking water (or the cleanest, clearest water available) for 15 minutes.
Rinse in disinfected water.
Method 2: Place cans in boiling water, and boil for 10 minutes. Cans will not explode within 10 minutes. Do not boil longer than 10 minutes.
4. Air dry cans for a minimum of one hour.

Disinfecting kitchen utensils and cookware

- Wash pots, pans and china and glass dishes and cups that have been covered by flood water with hot, soapy, disinfected water. Use a brush to remove dirt. Rinse in disinfected water and air dry. Discard dishes with deep cracks.

- Any piece of equipment that can be taken apart should be cleaned in pieces. Dip in sanitizing bleach solution and rinse in disinfected water.
- Plastic cookware, utensils, plates, dishes and cups, and wooden utensils and bowls cannot be disinfected if exposed to flood water. They must be thrown away. Plastic baby bottles and nipples and plastic storage containers also must be thrown away.
- Kitchen utensils made of iron probably will be rusted. Remove rust by scouring with steel wool. Then sterilize with bleach solution and reseason by applying a light coat of unsalted fat or oil and placing in a 350°F oven for one hour.

Disinfected (purified) water

Use one of these methods to disinfect water:

- Boil vigorously for 3 minutes
- Add unscented chlorine bleach (1/2 teaspoon per 2-1/2 gallons water.
- Add tincture of iodine (12 drops per gallon of water.

Refrigerator Foods

When to Save and When to Throw It Out

FOOD	Held above 40 °F for over 2 hours
MEAT, POULTRY, SEAFOOD	
Raw or leftover cooked meat, poultry, fish, or seafood; soy meat substitutes	Discard
Thawing meat or poultry	Discard
Meat, tuna, shrimp, chicken, or egg salad	Discard
Gravy, stuffing, broth	Discard
Lunchmeats, hot dogs, bacon, sausage, dried beef	Discard
Pizza, with any topping	Discard
Canned hams labeled "Keep Refrigerated"	Discard
Canned meats and fish, opened	Discard
CHEESE	
Soft Cheeses: blue/bleu, Roquefort, Brie, Camembert, cottage, cream, Edam, Monterey Jack, ricotta, mozzarella, Muenster, Neufchatel, queso blanco, queso fresco	Discard
Hard Cheeses: Cheddar, Colby, 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, eggnog, soy milk	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
Jelly, relish, taco sauce, mustard, catsup, olives, pickles	Safe
Worcestershire, soy, barbecue, Hoisin sauces	Safe
Fish sauces (oyster sauce)	Discard
Opened vinegar-based dressings	Safe
Opened creamy-based dressings	Discard
Spaghetti sauce, opened jar	Discard
BREAD, CAKES, COOKIES,PASTA, GRAINS	
Bread, rolls, cakes, muffins, quick breads, tortillas	Safe
Refrigerator biscuits,rolls, cookie dough	Discard
Cooked pasta, rice, potatoes	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; quiche	Discard
Pies, fruit	Safe
VEGETABLES	
Fresh mushrooms, herbs, spices	Safe
Greens, pre-cut, pre-washed, packaged	Discard
Vegetables, raw	Safe
Vegetables, cooked; tofu	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 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

Sources:

Keeping food safe during an emergency, USDA at http://www.fsis.usda.gov/wps/portal/food-safety-education/get-answers/food-safety-fact-sheets/emergency-preparedness/keeping-food-safe-during-an-emergency/CT_Index accessed 5/25/15

Resources for Your Flooded Home, University of Missouri Extension at <http://extension.missouri.edu/publications/DisplayPub.aspx?P=MP904> accessed 5/25/15

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