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# Food Safety in a Disaster or Emergency

Find out how to keep food safe before, during, and after emergencies, such as floods, fires, natural disasters, or the loss of power.

**Before**

**During**

**After**

## Before a Disaster or Emergency

### Prepare an Emergency Food Supply

A disaster can disrupt the food supply, so plan to have at least a 3-day supply of food on hand.

Keep foods that:

- Have a long storage life
- Require little or no cooking, water, or refrigeration, in case utilities are disrupted
- Meet the needs of infants or other family members who are on special diets
- Meet pets' needs
- Are not very salty or spicy, as these foods increase the need for drinking water, which may be in short supply

For a list of **suggested emergency food supplies** visit

<https://www.ready.gov/food>.

### How To Store an Emergency Food Supply

When storing food, it is not necessary to buy dehydrated or other types of emergency food.

**Download**

- Check the expiration dates on canned foods and dry mixes. Home-canned food usually needs to be thrown out after a year.
- Use and replace food before its expiration date.

Certain storage conditions can enhance the shelf life of canned or dried foods. The ideal location is a cool, dry, dark place. The best temperature is 40°F (4°C) to 70°F (21°C).

- Store foods away from ranges or refrigerator exhausts. Heat causes many foods to spoil more quickly.
- Store food away from petroleum products, such as gasoline, oil, paints, and solvents. Some food products absorb their smell.
- Protect food from rodents and insects. Items stored in boxes or in paper cartons will keep longer if they are heavily wrapped or stored in waterproof, airtight containers.
- Store food on shelves that will be safely out of the way of floodwaters.

### Prepare an Emergency Water Supply

- Store at least 1 gallon of water per day for each person and each pet. Consider storing more water than this for hot climates, for pregnant women, and for people who are sick.
- Store at least a 3-day supply of water for each person and each pet.
- Make sure to store your emergency water supply where it will be as safe as possible from flooding.
- If your bottled water has an odor, do not drink or use it. Instead, dispose of it, or if applicable, call your bottled water provider to get a replacement.
- Observe the expiration date for store-bought water; replace other stored water every 6 months.
- Store a bottle of unscented liquid household chlorine bleach to disinfect your water and to use for general cleaning and sanitizing. Try to store bleach in an area where the average temperature stays around 70°F (21°C). Because the amount of active chlorine in bleach decreases over time, consider replacing the bottle each year.

### Preparing for a Power Outage

- Make sure you have **appliance thermometers in your refrigerator and freezer**.
  - Check to ensure that the freezer temperature is at or below **0°F (-18°C)**, and the refrigerator is at or below **40°F (4°C)**.
  - In case of a **power outage**, the appliance thermometers will indicate the temperatures in the refrigerator and freezer to help you determine if the food is safe.
- Purchase or make **ice cubes in advance**, and **freeze gel packs** and **containers of water** to help keep food cold in the freezer, refrigerator, or coolers in case the power goes out. Store all of these in the freezer for later use in the refrigerator or in coolers. The melting ice in the containers of water will also supply safe drinking water.

- **Freeze refrigerated items** such as leftovers, milk, and fresh meat and poultry that you may not need immediately. This helps keep them at a safe temperature longer.
- **Group food together** in the freezer. This helps the food stay cold longer.
- **Have coolers on hand** to keep refrigerated food cold if the power might be out for more than 4 hours.
- Check out local sources to know where **dry ice and block ice** can be purchased, in case it should be needed.

During an emergency, if you use food or beverage containers to hold non-food substances like gasoline, dispose of them after use and do *not* recycle them.

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## During a Disaster or Emergency

### If the Power Goes Out

- Keep the **refrigerator and freezer doors closed** as much as possible to maintain the cold temperature.
    - The **refrigerator** will keep food **cold for about 4 hours** if unopened.
    - A **full freezer** will keep the temperature for approximately **48 hours** (24 hours if it is half full) if the door remains closed.
  - Buy **dry or block ice** to keep the refrigerator as cold as possible if the power is going to be out for a prolonged period of time. Fifty pounds of dry ice should keep an 18-cubic-foot, fully stocked freezer cold for two days.
  - If you plan to eat refrigerated or frozen meat, poultry, fish, or eggs while they are still at safe temperatures, it is important that each item is **thoroughly cooked to a safe minimum internal temperature** to ensure that any foodborne bacteria that may be present are destroyed. However, if at any point the food was above 40°F (4°C) for 2 hours or more (or 1 hour if temperatures are above 90°F (32°C)) — **discard it**.
  - During a snowstorm, do not place perishable food out in the snow. Outside temperatures can vary and food can be exposed to unsanitary conditions and animals. Instead, make ice. Fill buckets, empty milk containers, or cans with water and leave them outside to freeze. Use the homemade ice in your refrigerator, freezer, or coolers.
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## After a Disaster or Emergency

### Throw away the following food:

- Perishable food that has not been refrigerated or frozen properly due to power outages

- Food that may have come in contact with floodwater or stormwater
- Food with an unusual odor, color, or texture.

## After a Power Outage

Determine the safety of your food:

- If an appliance thermometer was kept in the freezer, **check the temperature** when the power comes back on. If the freezer thermometer reads 40°F (4°C) or below, the food is safe and may be refrozen.
- If a thermometer has not been kept in the freezer, **check each package** of food to determine its safety. You can't rely on appearance or odor alone. If the food **still contains ice crystals** or is 40°F (4°C) or below, it is safe to refreeze or cook.
- Refrigerated food should be safe as long as the power was out for **no more than 4 hours** and the refrigerator door was kept shut. Discard any perishable food (such as meat, poultry, fish, eggs, or leftovers) that has been at temperatures above 40°F (4°C) for 2 hours or more (or 1 hour if temperatures are above 90°F (32°C)).

Throw out the following foods:

1. All perishable foods (including meat, poultry, fish, eggs, and leftovers) in your refrigerator when the power has been off for 4 hours or more.
2. All perishable foods in your freezer if they have thawed.

You can safely refreeze or cook food from the freezer if the food still contains ice crystals and feels as cold as if refrigerated.

**Is food in the refrigerator safe during a power outage? Use [this chart](#) to find out.**

**Is thawed or partially thawed food in the freezer safe to eat? Use [this chart](#) as a guide.**

## After a Flood

Do not eat any food that may have come into contact with flood or stormwater. Discard:

- Food with an unusual odor, color, or texture.
- Food in packages that are not waterproof.
- Food in cardboard containers, including juice/milk/baby formula boxes.
- Food containers with screw-caps, snap-lids, crimped caps, twist caps, flip tops, and snap tops.
- Home-canned foods because they cannot be disinfected.
- Canned foods or food containers that are bulging, opened, or damaged. Throw out cans or food containers that spurt liquid or foam when you open them or contain food that is discolored, moldy, or smells bad. When in doubt, throw it out!

**How to salvage commercially prepared food** in cans and plastic or metal pouches (like flexible, shelf-stable juice package)

1. Remove labels if possible. Note the expiration date.
  2. Brush or wipe away dirt or silt.
  3. Wash cans and pouches with hot, soapy water.
  4. Rinse cans and pouches with clean, safe water.
  5. Sanitize cans and pouches in one of two ways:
    1. Place them in a solution of 1 cup (8 oz/240 mL) of unscented household bleach in 5 gallons of water for 15 minutes, OR
    2. Put in a pot of water, bring to a boil, and continue boiling for 2 minutes.
  6. Re-label cans or pouches with a marker. Include the expiration date.
  7. Use food in cans or pouches as soon as possible.
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## Resources:

[Emergency Preparedness](#) (USDA)

*Available in Spanish.*

[Food Safety Images for Severe Storms, Flickr](#) (USDA)

*Available in Spanish.*

[Food and Water Safety During Hurricanes, Power Outages, and Floods](#) (FDA)

*Available in Spanish and French.*

[Food, Water, Sanitation, and Hygiene Information for Use Before and After a Disaster or Emergency](#) (CDC)

*Available in Spanish.*

[Keep Food Safe After a Disaster or Emergency](#) (CDC)

*Available in Spanish, Arabic, Chinese, French, Haitian Creole, Portuguese, Tagalog, and Vietnamese.*

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