

Water Treatment-Boiling

Boiling is the most effective method for treating unsafe water. During an emergency, your usual source of energy (electricity or gas) may not be available. Remember to have equipment and an alternate energy source available for emergencies. Due to the serious risk of fire and carbon monoxide poisoning, DO NOT use charcoal or gas grills, hibachis, or camp stoves indoors.

Follow these steps to purify water by boiling:

- ☑ Place the water in a clean container and bring it to a full, rolling boil. Continue boiling for 5 minutes. If you are 5,000 feet or more above sea level, increase the boiling time to 10 minutes.
- ☑ Allow the boiled water to cool slowly to a drinkable temperature. Keep water covered while cooling.
- ☑ Boiled water may taste flat. The flavor can be improved by adding oxygen—pour the water back and forth between two clean, sanitized containers. Adding a little salt also enhances the flavor.

Water Treatment-Disinfection

Although boiling is the most reliable method for treating germ-contaminated water, it may not be possible to boil water during an emergency. In this instance, water can be treated with unscented, liquid household bleach (with 5.25% sodium hypochlorite).

Follow these steps to disinfect water with bleach:

- ☑ Place water in a *clean* container. Add 16 drops of bleach (1/4 teaspoon) per each gallon of water. Add 8 drops of bleach (1/8 teaspoon) to water stored in a two-liter bottle.
- ☑ Mix water and bleach well and allow to stand for at least 30 minutes. If the water is cloudy, or very cold, increase standing time to 60 minutes. If the water does not have a slight bleach odor after the standing time, repeat the bleach treatment and let stand for another 15 minutes.

Treating contaminated water with bleach will not kill parasites which may be present. Neither method (bleach or boiling) will remove chemical contamination.

Freezer Tips Before an Emergency

- ☑ **Group all raw meats** in the bottom of the freezer to prevent them from dripping on foods if they thaw.
- ☑ **Get 2 thermometers**—one for the refrigerator (40°F) and one for the freezer (0°F).
- ☑ **Fill empty spaces** in the freezer with clean containers of drinking water. (Do not fill the container completely or tighten the lid until the container is frozen.) Freezers are more efficient when full, and the ice will be drinkable when it melts.
- ☑ **Keep a list of freezer contents** to reduce the number of times you open the freezer door to look inside.

Additional Supplies For Your Kit:

- ◆ Flashlight with spare bulb and batteries
- ◆ Battery-operated radio with spare batteries
- ◆ Liquid chlorine bleach (5.25% sodium hypochlorite) Eye dropper for water treatment
- ◆ Candles, matches, lighter, fire extinguisher
- ◆ Disposable plates, eating utensils and cups
- ◆ Paper towels
- ◆ Equipment for boiling water and canned heat for food.
- ◆ First-aid kit, medications
- ◆ Dry or canned infant and pet food, if needed
- ◆ Plastic garbage bags
- ◆ Manual can opener
- ◆ Cash and change (ATMs will possibly not work and pay phones are often restored before residential lines)

Modified emergency preparedness kits are also recommended for your automobile.

For more information, contact:

Benton-Franklin Health District

7102 W. Okanogan Pl.
Kennewick, WA 99336

(509) 460-4205
www.bfhd.wa.gov

Websites:

National Weather Service (with weather warnings)

www.nws.noaa.gov

American Red Cross (disaster preparedness/relief)

www.redcross.org

Centers for Disease Control (emergency preparedness and response) www.bt.cdc.gov

Federal Emergency Management Agency (FEMA)

www.fema.gov

Chemical Stockpile Emergency Preparedness Program

www.csepp.net

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Emergency Food and Water Supply

Emergency Preparedness Series



www.bfhd.wa.gov



A natural disaster or seasonal storm may result in the temporary loss of electricity, water, or natural gas. It may be several days before basic services are restored. Emergency preparedness experts advise all families to store at least a three day supply of emergency food and water. Keep supplies in a single container in an easy-to-find spot away from pests and water where they'll be ready in case the "lights go out."

Emergency Food Supply

Store foods that do not require refrigeration and that can be eaten with little or no cooking. Choose foods that are familiar to you – a crisis is not a good time to learn to eat or cook new foods. Remember to store enough food for a three day supply.

Canned foods are handy to store for emergency use if you remember to keep a manual can opener with your emergency food supply. Foods packaged in single-serving containers are also good choices because they eliminate the need to store leftovers. Dehydrated foods are also easy to store for extended periods, but you will need to store enough safe water to rehydrate the food.

Excellent choices for emergency foods include:

- ◆ ready-to-eat canned meat, tuna, and chicken
- ◆ dried meat (beef jerky)
- ◆ canned or dried soups
- ◆ peanut butter and jelly
- ◆ dried fruits and trail mixes
- ◆ canned or powdered drink mixes
- ◆ canned or dry milk
- ◆ canned fruits and vegetables (also a source of water)
- ◆ crackers, nuts, cereal, and hard candy
- ◆ cookies, granola bars, and breakfast bars

Store the emergency food supply in a cool, dry place. To keep the supply fresh, label each food item with the date of purchase and use/replace items twice a year. Every six months, practice your preparedness plan and consume your stored foods. This practice will help show you areas to improve your plan (or if you'd like to make changes to the menu of foods you store).

Never use food from cans that are leaking, bulging, badly dented or that spurt liquid when opened. Throw away stored food that has an off-flavor or taste.

When the power goes out...

If you expect the power will be off for a long time, eat the food in the refrigerator (and then the food in your freezer compartment) before you open your emergency food stash. In a well-insulated freezer with the door shut, foods should have ice crystals for up to 2 days, indicating foods are safe to eat or refreeze.

Potentially hazardous foods (meats, dairy products, cooked vegetables, sliced melons, and cooked grains) are not considered safe to eat if they have been warm (between 41°F-140°F) for more than 4 hours. If you are not sure of the temperature of your food, discard it and open your emergency supply.

When the waters rise...

If your canned food supply comes in contact with floodwaters, mud, etc. wash thoroughly in soapy water, rinse with clean water and sanitize by immersing in a bleach solution (eight teaspoons of household bleach per gallon of water) for 15 minutes, then allow to air dry.

Potential contamination from floodwaters?

Do not use foods or products that are not in waterproof containers and able to be immersed in a sanitizing solution.

Emergency Water Supply

Store at least 1 gallon of water per person per day. This is the minimum amount a person will need for drinking, cooking and brushing teeth—more water will be needed for highly-active people, pregnant women, or if the weather is hot. Keep at least a three day supply of clean water on hand per person. (You might also need to store additional water for your pets.) To ensure quality, replace stored water twice a year.

Homes have many sources of hidden water. Sources such as the water heater, ice trays, water in canned fruits and vegetables, and water pipes are safe to drink. Faucets on the lowest level of the home can drain water left in the lines (not the sink traps). Sources such as the swimming pool, toilet tank, bathtub or waterbed can be used to flush the toilets, but shouldn't be used for cooking, washing hands, or brushing teeth because of potential chemical or bacterial contamination.

Filling water containers

Purchase commercially-bottled water or fill containers with water from a safe water supply for storage. If water is obtained from a residential well, be sure the well is tested for bacteria each year.

To fill water containers:

- ☑ Use containers that are made for water storage. Usable containers include clean glass and plastic jugs previously used for juice, pop, or bottled water. **(Plastic food and milk containers are not recommended.)** Containers must have tight-fitting lids. Food-grade plastic containers may also be purchased. Never reuse a container used for chemicals or other toxic substances.
- ☑ Prepare containers by either washing in the dishwasher or by hand in warm, soapy water. Sanitize containers with a mild bleach solution (1 teaspoon of bleach per 3 gallons of water). Allow the containers to air dry.
- ☑ Fill containers with water. Add bleach in order to keep water safer to store. For a one gallon container of water add 1/8 teaspoon of bleach. For a five gallon container add 1/2 teaspoon of bleach. Use household bleach with 5.25% sodium hypochlorite. Do NOT use bleach with added scents or cleaners.
- ☑ Seal containers tightly, label with date, and store in a cool, dark (to reduce growth of algae), safe place unlikely to flood.

Water Treatment Methods

If a safe supply of water is not available during an emergency, or if your usual supply becomes contaminated, the water must be treated before it can be used. This includes all water to be used for cooking, washing fruits and vegetables, brushing teeth, washing dishes and hands, etc.

There are two commonly-used methods for treating contaminated water: boiling or disinfecting (adding chlorine bleach).