

# Safe Drinking Water in an Emergency

**Y**ou and your family can survive for several days without food, but only a short time without water. Disasters can often cause us to question the safety of our drinking water. With a little planning and preparation, you can be prepared by having a safe emergency water supply.

## **How much do I need to store?**

Store a minimum of one gallon of water per person per day for drinking and cooking. Some of the need for liquids can be met by using juices from canned fruits and vegetables. Additional water will be needed for washing, brushing teeth and washing dishes. Store at least one week's supply of emergency water for each member of your family.

## **Do I need to treat the water I'm storing?**

It is not necessary to treat water for storage, providing that the water comes from a safe water supply. Public water supplies are already treated and should be free of harmful germs. If stored properly, this water should have an indefinite shelf life. But you may want to rotate and replace this water every 6-12 months with fresh safe water.

Water that might be contaminated with harmful germs should be boiled vigorously for 3 minutes before storage. Water from untested and untreated water supplies, such as a farm pond or a private well, should be purified and treated before storage. To treat water, follow the recommendations in the section "How to purify water." If you plan to store farm pond or private well water that is to be used in making formula for a baby, it should be purified using the tablet or bleach purification methods below.

## **How to store water**

Food-grade plastic or glass containers are suitable for storing water, provided that they have been completely cleaned. Food-grade containers are any store-bought plastic or glass containers that have previously held food or beverages. Examples include 2-liter soda bottles, water, juice, punch or milk jugs.

1. Wash the container with hot soapy water.
2. Rinse the soapy container well with plain water.
3. Sanitize by rinsing with a solution of ½ teaspoon of chlorine bleach per pint of water.
4. Rinse with clean water.

5. If water is to be stored in used plastic milk jugs, take special care to clean, sanitize and rinse inside the hollow handle area to remove any residue.

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**CAUTION!** Empty bleach containers should NOT be used. These are not food-grade containers. Also, a child may not understand that some bleach bottles are safe to drink out of while others are not. Do not take a chance — the results could be tragic.

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6. Clearly mark all containers as "drinking water" with the current date. Store the tightly capped containers in a cool, dry place away from direct sunlight. Containers should be stored in cabinets or on shelves that will not tip over or allow the containers to fall off and break as a result of an earthquake.
7. To improve the taste of safe water stored for a long time, pour from one clean container to another clean container several times.

Another method of storing water for an extended period of time is to freeze it. Freezing water will allow you to store it in a safe state and use it as you need it. If you lose electricity, the frozen water will also help keep foods frozen in your freezer until power is restored. Make sure you leave enough head space (2-3 inches) in containers before freezing. This will prevent the containers from spilling and breaking. One problem with freezing the family water supply is that you will use a lot of freezer space.

## **How to purify water**

### **Boiling**

Boil water for 3 minutes in a clean container. Water must be at a rolling or vigorous boil for the entire time.

### **Tincture of iodine**

Add 5 drops of tincture of iodine to 1 quart of *clear* water, or add 10 drops of tincture of iodine to 1 quart of *cloudy* water. After mixing thoroughly, allow to stand for at least 30 minutes before drinking.

### **Purification tablets**

These water purification tablets are available at most drug stores. Follow directions on the package.

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### Bleach purification

1. Liquid household bleach can be used if it contains 6.0 percent hypochlorite and has been purchased less than 6 months ago. Bleach loses potency over time and is best stored in a cool location for longer shelf life.
2. Add bleach according to the table below.
3. Stir and mix. Do NOT use scented bleaches — they are not safe for purification.
4. Mix the bleach completely into the water. Let it stand for 30 minutes. The water should have a slight chlorine odor. If it does not, add the same amount again, and let the water stand for an additional 15 minutes. If your sense of smell is impaired, ask a family member or friend to help with this step.

#### Amount of chlorine to add to:

Amount of water:	Clear water	Cloudy water
2 liters	4 drops	$\frac{1}{8}$ teaspoon
1 gallon	$\frac{1}{8}$ teaspoon	$\frac{1}{4}$ teaspoon
5 gallons	$\frac{1}{2}$ teaspoon	1 teaspoon

**CAUTION!** If your water supply has come in contact with flood water, you must purify it **and** the container again before using it for drinking, cooking, brushing teeth or dish washing.

### Other emergency water sources

Other sources of water supply can come from ice cubes, frozen containers of water, your hot water tank or your toilet tank (not the bowl). Do not drink water taken from the toilet tank if a chemical disinfectant or purifier has been added to the tank.

In earthquake-prone areas, be sure the water heater is strapped or secured to a wall to keep it from falling. Be sure you know where to shut off incoming water to avoid contamination. Turn off gas or electricity to the tank before draining off water for emergency use.

To obtain a free flow of water from the hot water tank, you may need to open the valve at the top of the tank as well as the faucet at the bottom of the tank. You can increase the flow of water from the hot water tank by turning on another hot water faucet in the house before draining the tank.

### For more information

Contact your local University of Missouri Extension center: <http://extension.missouri.edu>

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#### ALSO FROM MU EXTENSION PUBLICATIONS

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- EMW1011 Family Disaster Plan
- EMW1012 Disaster Supplies Kit
- EMW1024 Replacing Important Papers
- EMW1025 Storm Shelters and Safe Rooms
- MP904 Resources for Your Flooded Home

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