



Answers to questions about structures, ventilation, soil, water, waste, energy, machinery and safety.

Safe drinking water in an emergency

Why?

You and your family can survive for several days without food, but only a short time without water. When a disaster occurs and we cannot be sure about the safety of our drinking water, we need to be prepared, by having a safe emergency water supply.

How much do you need to store?

In moderate weather, a normally active person requires a minimum of 1/2 gallon of water per day for drinking and cooking. To be safe store at least six gallons of water per person per week. Additional water will be needed for washing, brushing teeth and dish washing. Some of the need for liquids can be met by using juices from canned fruits and vegetables. Store at least one week's emergency water supply for each member of your family, **now!**

How do I store it?

Any 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 which have previously held food or beverages. Examples include two-liter soda bottles, water, juice, punch or milk jugs. Wash the container with hot soapy water. Next, rinse the soapy container well with plain water. Then sanitize by rinsing with a solution of 1/2 teaspoon of chlorine bleach per pint of water. Finally, rinse with clean water. If water is to be stored in used plastic milk jugs, special care must be taken to clean, sanitize and rinse the inside handle area to remove any residue.

Empty bleach containers should **not** be used for two reasons. First, these are not food-grade containers. Secondly, a child may not be able to understand that some bleach bottles are safe to drink out of and others are not. Do not take a chance. The results could be tragic.

It is not necessary to treat water for storage, providing the water comes from a safe water supply. All 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 for 10 minutes before storage. Water from untested and untreated water supplies, such as a farm pond or private well, should be purified and treated before storage. To treat water, follow the recommendation in the section on "How to Purify Water." Farm pond or private well water that is to be stored for use to make formula for a baby, should be purified using the tablet or bleach purification method.

Clearly mark all containers "drinking water," with the current date and 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. 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 us to store it in a safe state, and use it as we need it. If you lose electricity, the frozen water will also help keep the foods in your freezer frozen until power is restored. Make sure you leave enough head space in containers before freezing (2-3 inches). This will prevent the containers from spilling and breaking. One problem with freezing the family water supply is you will use up a lot of freezer space.

Other emergency 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 from the toilet tank if a chemical disinfectant or purifier has been added to the water. In the earthquake prone area of Missouri, be sure the water heater is strapped or secured to a wall to keep it from failing. Be sure you know where to shut off incoming water to avoid contamination.

To obtain a free flow of water from the hot water tank, it is sometimes necessary to open the valve at the top of the tank as well as the faucet at the bottom of the tank. The flow of water will also be increased if any hot water faucet in the home is turned on before draining water from the hot water tank. Be sure to turn off gas or electricity to the tank before draining off water for emergency use.

To purify water: (Choose one of the methods below)

1. Boiling: Boil vigorously for 10 minutes.
2. Purification tablets: Available at any drug store. Follow directions on package.
3. Bleach purification: Liquid household bleach can also be used. It must contain hypochlorite, preferably 5.25 percent; add according to table below. Then stir and mix. Do not use scented bleaches. They are not safe for purification.

Amount of water	Amount of chlorine to add to clear water	Amount of chlorine to add to cloudy water
2 liters	4 drops	1/8 teaspoon
1 gallon	1/8 teaspoon	1/4 teaspoon
5 gallons	1/2 teaspoon	1 teaspoon

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.

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 dishwashing.

For more information:

Contact your county [University of Missouri Extension Center](#). This article has been adapted for MU Extension publication EMW1026, [Safe Drinking Water in an Emergency](#).