

# What If...No Water?



Water is an essential element to survival and a necessary item in an emergency supplies kit. Following a disaster, clean drinking water may not be available. Your regular water source could be cut off or compromised by contamination. Prepare yourself by building a supply of water that will meet your family's needs during an emergency.

## How much water do I need?

You should store at least one gallon of water per person per day for three days. A normally active person needs about three quarters of a gallon of fluid daily, from water and other beverages. However, individual needs vary, depending on age, health, physical condition, activity, diet, and climate.

To determine your water needs, take the following into account:

- One gallon of water per person per day, for drinking and sanitation. **REMEMBER: DIALYSIS PATIENTS SHOULD RESTRICT THEIR FLUID INTAKE WHEN DIALYSIS IS NOT READILY AVAILABLE.**
- Children, nursing mothers, and sick people may need more water.
- A medical emergency might require additional water.
- If you live in a warm weather climate, more water may be necessary. In very hot temperatures, water needs can double.
- Keep at least a 3-day supply of water per person.

## How should I store water?

It is recommended that you purchase commercially bottled water in order to prepare the safest and most reliable emergency water supply. Keep bottled water in its original container, and do not open until you need to use it. Observe the expiration or “use by” date. Store in a cool, dark place.

### Preparing Your Own Containers of Water

It is recommended you purchase food-grade water storage containers from surplus or camping supply stores to use for water storage.

Before filling with water, thoroughly clean the containers with dishwashing soap and water, and rinse completely so there is no residual soap.

If you choose to use your own storage containers, choose 2-liter plastic soft drink bottles-not plastic jugs or cardboard containers that have had milk or fruit juice in them. Milk protein and fruit sugars cannot be adequately removed from these containers and provide an environment for bacterial growth when water is stored in them. Cardboard containers also leak easily and are not designed for long-term storage of liquids. Also, do not use glass containers, because they can break and are heavy.

### Storing Water in Plastic Soda Bottles

Follow these steps for storing water in plastic soda bottles.

Thoroughly clean the bottles with dishwashing soap and water, and rinse completely so there is no residual soap.

Sanitize the bottles by adding a solution of 1 teaspoon of non-scented liquid household chlorine bleach to a quart of water. Mix the sanitizing solution in the bottle so that it touches all surfaces. After sanitizing the bottle, thoroughly rinse out the sanitizing solution with clean water.

Fill the bottle to the top with regular tap water. If the tap water has been commercially treated from a water utility with chlorine, you do not need to add anything else to the water to keep it clean. If the water you are using comes from a well or water source that is not treated with chlorine, add two drops of non-scented liquid household chlorine bleach to the water. Let the water stand for 30 minutes before using.

A slight chlorine odor should be noticeable in the water; if not, add another dose of bleach and allow the water to stand another 15 minutes.

Tightly close the container using the original cap. Be careful not to contaminate the cap by touching the inside of it with your finger. Place a date on the outside of the container so you will know when you filled it. Store in a cool, dark place.

Water can also be treated with water purification tablets that can be purchased at most sporting goods stores.

Water that has not been commercially bottled should be replaced every six months.

## Managing Water during an Emergency

**Never ration drinking water unless ordered to do so by authorities.**

Drink the amount you need today and try to find more for tomorrow. You can minimize the amount of water your body needs by reducing activity and staying cool.



**Drink water that you know is not contaminated first.** If necessary, suspicious water, such as cloudy water from regular faucets or water from streams or ponds, can be used after it has been treated. If water treatment is not possible, put off drinking suspicious water as long as possible, but do not become dehydrated.

**Do not drink carbonated beverages instead of drinking water.** Carbonated beverages do not meet drinking water requirements. Caffeinated drinks and alcohol dehydrate the body, which increases the need for drinking water.

**Turn off the main water valves.** You will need to protect the water sources already in your home from contamination if you hear reports of broken water or sewage lines or if local officials advise you of a problem. To close the incoming water source, locate the incoming valve and turn it to the closed position. Be sure you and your family members know how to perform this important procedure.

## Safe Water Sources

- Melted ice cubes
- Liquids from canned goods such as fruit or vegetables
- Water drained from pipes. To use the water in your pipes, let air into the plumbing by turning on the faucet in your home at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the home.
- Water drained from the water heater. To use water in your hot water tank, be sure the electricity or gas is off and open the drain at the bottom of the tank. Start the water flowing by turning off the water intake valve at the tank and turning on the hot water faucet. After you are notified that clean water has been restored, you will need to refill the tank before turning the gas or electricity back on. If the gas is turned off, a professional will need to turn it back on.



## Unsafe Water Sources

- Radiators
- Hot water boilers (home heating systems)
- Water from the toilet bowl or flush tank
- Water beds. Fungicides added to the water or chemicals in the vinyl may make water unsafe to use.
- Swimming pools and spas. Chemicals used to kill germs are too concentrated for safe drinking but can be used for personal hygiene, cleaning, and related uses.

## Water Treatment

If you have used all of your stored water and there are no other reliable clean water sources, it may become necessary in an emergency situation to treat suspicious water. Treat all water of uncertain quality before using it for drinking, food washing or preparation, washing dishes, brushing teeth, or making ice. In addition to having a bad odor and taste, contaminated water can contain microorganisms (germs) that cause diseases such as dysentery, cholera, typhoid, and hepatitis.



There are many ways to treat water. None is perfect. Often the best solution is a combination of methods. Before treating, let any suspended particles settle to the bottom or strain them through coffee filters or layers of clean cloth. Make sure you have the necessary materials in your disaster supplies kit for the chosen water treatment method.

### Boiling

Boiling is the safest method of treating water. In a large pot or kettle, bring water to a rolling boil for one full minute, keeping in mind that some water will evaporate. Let the water cool before drinking.

Boiled water will taste better if you put oxygen back into it by pouring the water back and forth between two clean containers. This will also improve the taste of stored water.

### Chlorination

You can use household liquid bleach to kill microorganisms. Use only regular household liquid bleach that contains 5.25 to 6.0 percent sodium hypochlorite. Do not use scented bleaches, color safe bleaches, or bleaches with added cleaners. Because the potency of bleach diminishes with time, use bleach from a newly opened or unopened bottle.

Add 16 drops (1/8 teaspoon) of bleach per gallon of water, stir and let stand for 30 minutes. The water should have a slight bleach odor. If it doesn't, then repeat the

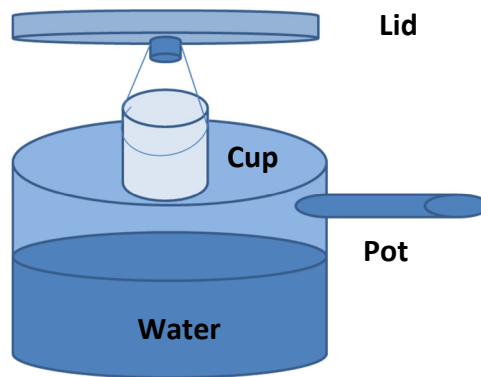
dosage and let stand another 15 minutes. If it still does not smell of bleach, discard it and find another source of water.

Other chemicals, such as iodine or water treatment products sold in camping or surplus stores that do not contain 5.25 or 6.0 percent sodium hypochlorite as the only active ingredient, are not recommended and should not be used.

## Distillation

While boiling and chlorination will kill most microbes in water, distillation will remove microbes (germs) that resist these methods, as well as heavy metals, salts, and most other chemicals. Distillation involves boiling water and then collecting only the vapor that condenses. The condensed vapor will not include salt or most other impurities.

To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right-side-up when the lid is upside-down (make sure the cup is not dangling into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.



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