

## Emergency Water Storage and Treatment

Earthquake, storm or other natural or man made disaster strikes, your access to food, water and electricity may end for days, or even weeks.



### USE COMMON SENSE!

Plan to be independent from resources other than your own.  
WATER POSSIBLY YOUR NUMBER ONE CONCERN.

(remember no water no flush)



The following information about water storage and purification is the latest and most accurate information available.

Guidelines from the Food and Drug Administration, U. S. Department of Agriculture Extension Service as well as the Environmental Protection Agency Safe Water Hotline. We have added our own personal opinions derived from practical applications and professionals in Emergency Management.

How Much Water is enough ?

Store at least one gallon of water per person, per day. That is the minimum storage just for drinking.

We have also listened to medical doctors claims of approximately 2 quarts.

How much would depend on weather, exertion, size and physical condition. Safe to say one gallon per day per person base line drinking and hygiene.

Remember, be practical consider space required, handling, rotation.

**WATER IS A PRIORITY!** Diversify your containers - portable and stationary

Properly stored water in your car is a must have. If you find you are stranded or must abandon your vehicle and travel by foot you will need water. We favor water packets that can be stored for extended periods. Packets will withstand temperature extremes of summer & winter.

( Packets normally contain filtered "purified" water and can be of use in a medical emergency)

How to Store Water

1.Store water in clean plastic containers, such as 2-liter soda bottles, with tight fitting screw-cap lids. Use colored bottles to inhibit light. Soda bottles meaning carbonated beverage plastic is of a finer grade of plastic and the caps have "soft seal" for positive closing.

The container must be of "food-grade" plastic. **Do not use milk containers** since they do not have a lid that seals well. You may also purchase plastic containers at a camping supply store. Be sure the containers are designated as water storage containers. Never use a container that has held toxic substances.

2.Store in a cool, dark location such as closet.

3.**Empty and refill the water at least every six months.**

We prefer: Dark containers to inhibit penetration by U.V.

Non vented containers preventing air intake and unauthorized materials being added.

Always keep containers insulated from concrete to prevent leaching of chemicals.

If using commercially prepared "spring", distilled, or "drinking" water store as follows:

1. Keep the water in its original sealed container. Once the container is opened, use the water immediately.

**2. Rotate the water at least every six months.**

Keep away from sunlight and fluorescent lighting.

PLEASE NOTE: Tests have shown that many bottled waters are no better than your normal tap water. Many times containers are clear plastic for consumer appeal. You may be better served by storing your own water in containers of your choice.

Other sources of emergency drinking water:\*

Water in your hot-water heater

Water in your plumbing

Melted ice cubes

Water from your toilet tank (not the bowl)

### **Ways to Purify Water**

In addition to having a bad odor and taste, contaminated water can contain micro-organisms that cause diseases such as dysentery, typhoid and hepatitis. You should purify all water of uncertain purity before using it for drinking, food preparation or hygiene.

Avoid at all cost unpure water, illness/diarrhea at a time of short water supplies can spell death.

There are many ways to purify water. None is perfect in a stress situation with limited resources. Often the best solution is a combination of methods.

Two easy purification methods are outlined below. These measures will kill most microbes but will not remove other contaminants such as heavy metals, salts and most other chemicals. Before purifying, let any suspended particles settle to the bottom, or strain them through layers of paper towel or clean cloth.

Boiling. Boiling is the safest method of purifying water. Bring water to a rolling boil for 3-5 minutes, 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.

Disinfection. You can use household liquid bleach to kill microorganisms. Use only regular household liquid bleach that contains 5.25 percent sodium hypochlorite. Do not use scented bleaches, color safe bleaches or bleaches with added cleaners.

Add 16 drops of bleach per gallon of water, stir and let stand for 30 minutes. If the water does not have a slight bleach odor, repeat the dosage and let stand another 15 minutes. You may use bleach for storing water if you feel it necessary. Normally this is not needed if you are using an approved source and are rotating your supplies as you should. The treatment range is between 12 - 18 drops per gallon. For measuring drops you can simply dip a twist of paper towel in bleach and count the drops.

### **NOTES:**

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

**Beware of expiration dates, did you know; bleach average 16 month shelf life.**

**Potable water tablets, 2 years in original sealed container.**

**Beware of the term, EPA approved. Don't be misled into believing this means FDA approved.**

**EPA approvals will dictate how items will react to the environment and may also be directed towards shipping methods. (Bleach = Corrosive, do not ship by air )**

**Beware of wording designed to trick or mislead the consumer.**

Distillation. While the two methods described above will kill most microbes in water, distillation will remove microbes that resist these methods, and heavy metals, salts and most other chemicals. Distillation involves boiling water and then collecting the vapor that condenses back to water. The condensed vapor will not include salt and 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 in the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled. The safest most absolute way if you plan ahead and have the fuel.