Water

During this month, families are asked to survey and update their long term water supply (two weeks drinking water), and to create a portable water kit for their homes – three days supply and two day water kits for each of their cars.

One gallon per day minimum Preferably two gallons per day for each member in the family. Quantity depends on the size of the person, amount of exertion, weather and perspiration loss. If there are family pets, include sufficient additional water for them.

A family of four would need at least 66 gallons of pure water for their 2-week reserve supply. (For two gallons a day per person 112 gallons would be needed.) With careful use, this amount would be sufficient for drinking, food preparation and brushing teeth. Water for clean-up purposes is also desirable if space is available.

Immediately after a major disaster, prevent contamination of home water supply by shutting off the valve that leads to the water main. (Does everyone know where this is and how to turn it off?)

Other sources of liquid include: water drained from the hot water tank, if it has been turned off (most tanks contain 30-60 gallons of usable water); melted ice cubes, canned fruit and vegetable juices, and liquid from other canned goods. (If canning jars are standing in the pantry empty, fill them with water and seal them! However, your supply of extra pure water is the best resource. Commercially bottled water is available in sealed plastic containers.

Emergency Water Supplies

Having an ample supply of clean water is a top priority in an emergency. A normally active person needs to drink at least two quarts (half gallon) of water each day. People in hot environments, children, nursing mothers, and ill people will require even more. You will also need water for food preparation and hygiene. Store at least one gallon per person, per day. Consider storing at least a two-week supply of water for each member of your family. If you are unable to store this quantity, store as much as you can. If supplies run low, never ration water. 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.

PREPARE AND STORE AN EMERGENCY SUPPLY OF WATER To prepare the safest and most reliable emergency supply of water, it is recommended that you purchase commercially bottled water. Keep bottled water in its original container, and do not open it until you need to use it.

It is recommended to purchase food-grade water storage containers from surplus or camping supplies stores to use for water storage. If you decide to re-use storage containers, choose two-liter plastic soft drink bottles – not plastic jugs or cardboard containers that have had milk or fruit juice in them. The reason is that 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 leak easily and are not designed for long-term storage of liquids. Also, do not use glass containers, because they are heavy and may break.

Preparing Containers

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

Additionally, for plastic soft drink bottles, sanitize the bottles by adding a solution of 1 teaspoon of non-scented liquid household chlorine bleach to a quart (1/4 gallon) of water. Swish 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. Thoroughly clean the bottles with dishwashing soap and water, and rinse completely so there is no residual soap.

Fill the bottle to the top with regular tap water. (If your water utility company treats your tap water 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 each gallon of water.

Filling Water Containers

Use a **food grade hose** when filling the large containers. Tightly close the container using the original cap. Be careful not to contaminate the cap by touching the inside of it with your fingers. Write the date on the outside of the container so that you know when you filled it. Store in a cool, dark place. Check the expiration date on commercially filled, sealed water bottles. If you use bleach to treat your stored water, you must change the water every year. If you use water treatment additive, Aerobic 07, you need to change your water every five years. If your large barrels must be stored outside, cover them with a dark tarp.

HIDDEN WATER SOURCES IN YOUR HOME

Safe water sources in your home include the water in your hot- water tank, pipes, and ice cubes. You **should not** use water from toilet flush tanks or bowls, radiators, waterbeds, or swimming pools/spas.

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 shut off incoming water, locate the main valve and turn it to the closed position. Be sure you and other family members know beforehand how to perform this important procedure.

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.

To use the 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 a hot-water faucet. Refill the tank before turning the gas or electricity back on. If the gas is turned off, a professional will be needed to turn it back on.

Emergency Outdoor Water Sources

If you need to find water outside your home, you can use these sources. Be sure to treat the water according to the instructions on the next page before drinking it.

Rainwater
Streams, rivers, and other moving bodies of water
Ponds and lakes
Natural springs

Avoid water with floating material, an odor, or dark color. Use saltwater only if you distill it first. You should not drink flood water.

Ways to Treat Water

The instructions below are for treating water of uncertain quality in rare emergency situations in the absence of instructions from local authorities when no other reliable clean water source is available and you have used all of your stored water. If you store enough water in advance, you will not need to treat water using these or other methods.

In addition to having a bad odor and taste, contaminated water can contain microorganisms (germs, bacteria, and viruses) that cause diseases such as dysentery, typhoid, and hepatitis. You should treat all water of uncertain quality before using it for drinking, food preparation, or hygiene.

There are many ways to treat water, though none are perfect. Often the best solution is a combination of methods.

Boiling or chlorination will kill most microorganisms but will not remove other contaminants such as heavy metals, salts, and most other chemicals. Before treating, let any suspended particles settle to the bottom, or strain them through layers of paper towel, clean cloth, or coffee filter.

Boiling

Boiling is the safest method of treating water. In a large pot or kettle, bring water to a rolling boil for 1 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, colorsafe 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 to 6.0 percent sodium hypochlorite as the only active ingredient, are not recommended and should not be used.

Distillation

While the two methods described above will kill most microorganisms in water, distillation will remove microorganisms that resist these methods, as well as 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 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.