

WATER STORAGE



WATER IS CRUCIAL

- A person normally uses in excess of 140 gallons of water per day for drinking, bathing, laundry, dishes, watering lawns, etc.
- Science tells us that a human can survive 3 days without water.
- Our body needs 1 pint of water a day to live for more than 4 or 5 days.





- *I live by a lake or stream so I don't need to store water.*
- In a severe storm, flooding, earthquake etc. water may become contaminated and unfit for drinking or using.

HOW MUCH WATER DO I STORE ?

- Individual needs vary, depending on age, physical condition, activity, diet, and climate.
- Children, nursing mothers, and ill people need more water.
- Very hot temperatures can double the amount of water needed.
- A medical emergency might require additional water.

MORE WATER IS BETTER

- Some emergency preparedness experts say that water may be our first and most crucial item to store.
- We can live many days without food but not very many without water.



HOW MUCH WATER TO STORE

- 1Gal Drinking Water Per Day Per Person.
- ½ Gal Utility Water Per Day Per Person.
- Store a 3 day minimum Water Supply.
- Store 14 days Optimum Water Supply or More.
 - Total 14 Day water Supply for 1 Person
- 14 Gallons Drinking Water
- 7 Gallons Utility Water
- TOTAL 21 Gallons Water per Person

The background of the image is a serene landscape featuring a clear blue sky with wispy white clouds at the top. Below the sky is a calm blue ocean. A bright sun is positioned on the left side of the horizon, creating a shimmering reflection on the water's surface that extends towards the center. The overall color palette is dominated by various shades of blue, from deep cerulean to light sky blue.

REMEMBER WATER FOR YOUR
ANIMALS

CONTAINERS

- Use only food-grade containers. Smaller containers made of PETE plastic or heavier plastic buckets or drums work well.
- Clean, sanitize, and thoroughly rinse all containers prior to use. A sanitizing solution can be prepared by adding 1 teaspoon (5 ml) of liquid household chlorine bleach (5 to 6% sodium hypochlorite) to one quart (1 liter) of water. Only household bleach without thickeners, scents, or additives should be used.
- Do not use plastic milk jugs, because they do not seal well and tend to become brittle over time.
- Do not use containers previously used to store non-food products.

WHICH CONTAINERS ARE SAFE ?

- Glass is the most ideal container to store food in, BUT, it breaks easily and is heavy.
- Some plastics can be recycled for water or food storage while others contain toxins not suitable for storage.

- If you plan to use previously used containers make sure that what it had in it before is something you wouldn't mind tasting or smelling in your water.
- In determining which kind of containers that can be reused, ***a good rule of thumb is that if the container originally stored food, it can be safely used for food again.***

FEMA RECOMMENDS...

- *To prepare safest and most reliable emergency supply of water, it is recommended you purchase commercially bottled water.*
- Keep bottled water in its original container and do not open it until you need to use it
- Rotate the water as you would your regular food storage. Observe the expiration or "use by" date.

- Store water in a place that will not be damaged if the water containers ever leak.

BULK WATER STORAGE

- **The easiest way to store the bulk of your water is in 55 gallon, polyethylene (plastic) water drums.**
- These can be obtained from most food storage companies or from local container companies found in the yellow pages. It is important that you use only food grade, good quality containers.
- Many times you can get food grade containers from companies that distribute beverages or syrups. If you clean them well, they can provide a good container that costs considerably less. gallon sizes.

- One word of caution, however, often the taste or odor of the previous contents has leached into the plastic and over time may be reintroduced to your water. If you plan to use previously used containers make sure that what it had in it before is something you wouldn't mind tasting or smelling in your water. Most water containers come in 5 gallon, 15 gallon or 55 gallon.

- Store between two and six of the smaller containers along with the 55 gal. drums.
- This is a prudent suggestion in situations where you might need to transport water, in the normal course of events or in a situation where your normal water source might be disrupted, such as after an earthquake, hurricane, etc., and you might have to go to a secondary water source such as a water truck, stream, etc. to refill.
- Water weighs approximately 8 lbs. per gallon. Fifty- five gallon drums are much too heavy to handle (440 lbs.) and awkward. Smaller containers don't hold enough water and would require too many trips, especially if you have to go on foot.
- Five 15 gallon containers are more practical and can easily be put into a wheelbarrow or child's wagon and wheeled to and from an area.

Many Types of Plastics

- Look on the bottom of plastic containers.
- Most plastic containers have a small triangle with a number in it.
- This is a number used to identify the type of plastic and is used for recycling.
- It's called the recycling triangle.

PLASTIC IDENTIFYING TRIANGLE



PET or PETE polyethylene terephthalate

- 1 inside the recycling triangle diagram.
- PET plastic is clear, tough and has gas and moisture barrier properties.
- This plastic is commonly used for beverages such as soft drinks, juices and bottled water. It is also used for foods such as peanut butter, pickles and salad dressing.
- Keep in mind that there will always be a remaining scent in containers that originally stored food with strong odors.

HDPE — High density polyethylene

- 2 on the triangle code.
- The plastic commonly used for milk bottles, some juice containers and laundry products. These containers can be translucent or colored and are somewhat stiff and well-suited for packaging products with a short shelf life, such as milk.
- However, used milk jugs are not well suited as food storage containers. While the plastic is considered food grade, milk containers are difficult to sanitize properly, and the plastic will break down over time.
- Chlorine bleach containers hold up somewhat better, but if water is stored in these containers, it should be used for purposes other than drinking, such as for laundry or dishes.
- Avoid using plastic garbage bags or plastic grocery bags made from this plastic as food storage liners.

PVC - polyvinyl chloride

- 3 on the triangle code.
- Most people think of plastic pipes when the term PVC is used.
- This plastic weathers well, is stable for surrounding electrical cables and is a staple in home window frames, floor tiles and siding.
- This plastic can be used for both food and non-food purposes.
- Make certain the container has not been treated for use in industry or construction before storing food in it.

LDPE - Low density polyethylene

- 4 on the triangle code.
- They are used for a wide range of items such as dry-cleaning bags, bread and frozen food bags and squeezable bottles for mustard and honey.
- To recycle these for food storage, consider what was in them previously and how easily the containers can be sanitized.
- This is probably not the best plastic for long-term food storage.

PP - Polypropylene

- 5 on the triangle code.
- This plastic is tough and may be stiff or flexible.
- Yogurt containers, margarine tubs and medicine bottles are examples of food grade containers made from this plastic.
- Polypropylene is also used to make ice scrapers, oil funnels, rakes, pallets and refrigerator food storage bins. It is a widely used plastic.

PS - Polystyrene

- 6 on the recycling triangle.
- It is a rigid plastic or a foam that is clear, hard and brittle.
- Typical uses include cups, plates, cutlery, egg cartons, meat trays and compact disc jackets.
- While this is widely used in packaging, it doesn't usually come in containers suitable for food storage

Other

- 7 on the recycling triangle.
- This code means that the package is made with a resin other than the six listed above or is a combination of two or more of them.
- For foods and food storage, number 7 containers are commonly found in 3 and 5 gallon reusable water bottles/jugs, some citrus juice containers and ketchup bottles.

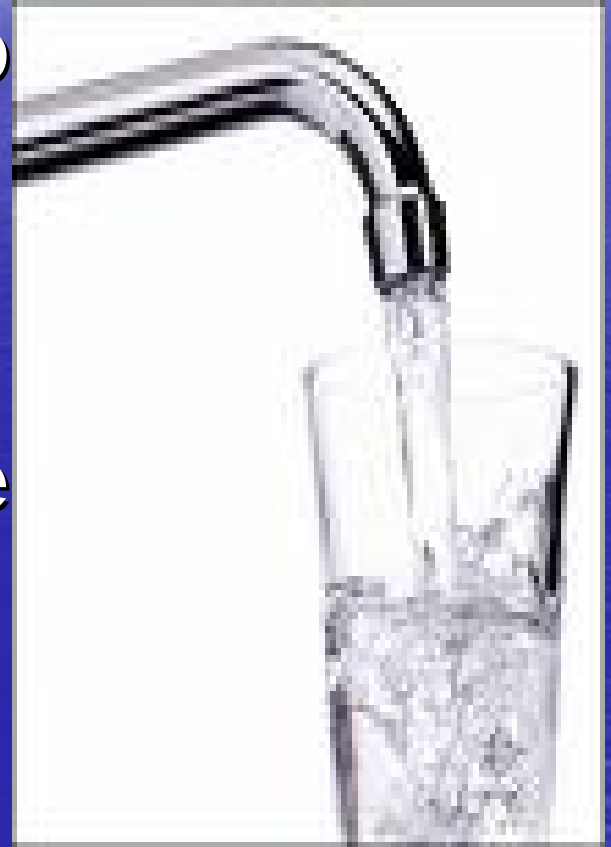
- As a general rule, the most common plastics for food storage are made from number 1, PET or PETE, or number 7, a combination of any of the plastics we've just spoken about.

If You are Preparing Your Own Containers of Water

- It is recommended you purchase food-grade water storage containers from surplus or camping supplies stores and other 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 two-liter plastic soft drink bottles, glass jugs, heavy plastic juice jugs.

Filling Water Containers

- Fill the container 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.



Filling Water Containers

- 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.
- 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 that you know when you filled it. Store in a cool, dark place.

ROTATING WATER

- FEMA says, replace the water every six months if not using commercially bottled water.
- Other sources say replace every 1 to 2 years.
- **Studies show that if water is bacteria-free** and is stored in clean containers it will stay safe for several years.



TREATING WATER

- **Water Filters** come in many types, sizes and prices.
- **Two percent Tincture of Iodine.** To use this add 12 drops per gallon of water. Note: pregnant or nursing women or people with thyroid problems should not drink water with iodine.



- **Chlorine Bleach** -- Household bleach can also be used. This should contain a 5.25% solution of sodium hypochlorite without soap additives or scents. Use 1/8 teaspoon (about 5-8 drops) per gallon of water.
- Iodine and Bleach are inexpensive ways to treat water. They are both effective methods of killing bacteria. They are also toxic chemicals.

Safer Water Purification

- Coloidal Silver. This can be purchased at health food stores. It can also be made with your own coloidal silver maker.
- Stabilized Oxygen. This has been approved by the FDA for water purification.
- These natural purifiers also have benefits for health.

Using Stored Water

- One of the things that affects the taste of water is it "going flat". This occurs because of the oxidation that takes place as it sits.
- You can improve the taste by pouring the water back and fourth between containers to aerate it or by beating it with a hand egg beater.
- You also may want to store some flavorings such as fruit drink powders, kool-aid, etc. to add to your water if you find the taste objectionable.
- One of the other benefits of adding Aerobic Oxygen is the oxygen remains suspended maintaining its good taste for much longer periods of time.

Treating Water That is Questionable

Ways to Treat Water

In addition to having a bad odor and taste, contaminated water can contain microorganisms that cause diseases such as dysentery, typhoid and hepatitis.

- You should treat all water of uncertain purity before using it for drinking, food preparation or hygiene.
- There are many ways to treat water. None is perfect. Often the best solution is a combination of methods.
- Two easy treatment methods are on the next screen. These measures will kill most microbes 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 or clean cloth.

BOILING

- **Boiling:** Boiling is the safest method of treating water. Bring water to a rolling boil for 3 to 11 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

- **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, colorsafe 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.
- (Info from American Red Cross)

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:** 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 into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.
- OR... purchase a water distiller

Hidden Water Sources in Your Home

- If a disaster catches you without a stored supply of clean water, you can use the water in your hot-water tank, pipes and ice cubes. As a last resort, you can use water in the reservoir tank of your toilet (not the bowl).
- Do you know the location of your incoming water valve? You'll need to shut it off to stop contaminated water from entering your home if you hear reports of broken water or sewage lines.

HIDDEN WATER SOURCES

- To use the water in your pipes, let air into the plumbing by turning on the faucet in your house at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the house.
- 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 and turning on a hot-water faucet. Do not turn on the gas or electricity when the tank is empty.

BE PREPARED WITH WATER

