

How Much Do You Need?

PLAN 1:

Immediate Needs (72 hours)

**1 gallon/day per person = 3 gallons
Case of Bottle Water (for car trunks)
Easy Portability is Crucial !!**

PLAN 2:

Short Term Needs (1-2 Weeks)

**2 gallons/day per person = 14 gallons
3 five-gallon containers per person
Portability may not be as important
Note: Hot Water Heaters contain 40-50 gallons**

PLAN 3:

Long Term Needs (1-12 Months)

2 gals/day per person = 750 gallons

NO WAY !!

Think out of the BOX !

TAKE ANOTHER APPROACH !!

**Acquire the capability of filtering / purifying
enough water for you and your family.**

**Locate sources of water that you may have to
draw upon and find out about how contaminated
it may be ... what chemicals, herbicides,
pesticides, bacteria, viruses may be in it so that
you will have the proper filtration / purification
system to handle it.**

"Natural disasters such as floods or earthquakes may pollute or disrupt water supplies.

Why Do You Need to be Prepared?

“Natural disasters such as floods or earthquakes may pollute or disrupt water supplies.

Water is more essential than food in sustaining life.

It is wise to have an emergency storage of at least 14 gallons per person. The water **MUST be pure, treated to prevent microbial growth**

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ProvidentLiving.com

(The Church of Jesus Christ of Latter-day Saints)

**We cannot provide against
every contingency.
But we can provide against
many contingencies.”**

President Hinckley
(October Conference 2001)

“A man should have on hand
sufficient supplies to sustain himself
and his family in an emergency.

For many years the leaders of the
Mormon Church have recommended,
with instructions, that every family
have on hand at least a year’s supply
of basic food, clothing, fuel (where
possible), and provisions for shelter...

**It can and will be useful in many
circumstances in the days ahead.”**

President Ezra Taft Benson
(God, Family, Country, p.331)

How to Treat Contaminated Water?

3 Step Process

- **Pre-Filtering**

Removes what you can't see (silt and sediments)

- **Sanitization / Purification**

Kills what you can't see: pathogens, bacteria, viruses

- **Filtration**

Removes harmful chemicals, metals, VOC's,

Filtration / Purification Systems Issues

- Volume of water needed to process
- Ease of Use
- Portability
- What does it take out
- What does NOT take out
- Cost per Gallon (not cost per system)
- Short Term needs versus Long Term needs
- Effects on Individuals (Iodine, Chlorine)
- Quality of system

Pre-Filtering

Pre-filtering need to get rid of the large items such as silt, sediment, leaves, etc. Even before pre-filtering, you should allow the water to settle so a lot of the items will sink to the bottom. You then just drain off the clear water on top.

NOTE: Pre-filtering will prolong the life of the more expensive filters.

- **Types of Pre-Filters**

Cloth (clean cloths, shirts)

Coffee Filters

Cheesecloth

Cloth Diapers

Sanitization / Purification

- **Boiling**

Good job of killing parasites, bacteria, and viruses but it does not neutralize any chemicals or improve the taste. The old way was to boil for 5-10 minutes, no, just bring to a boil. This is a good method but requires a lot of fuel.

- **Chemicals**

The two most common chemicals used are CHLORINE and IODINE. One package of “HTH SOCK IT” containing chlorine can purify up to 12,800 gallons of water. CAUTION: Some people are negatively affected by IODINE.

- **Ceramic Filters**

Certain ceramic filters which are impregnated with silver or iodine can kill micro organisms, bacteria but not viruses. These filters do not remove harmful chemicals, herbicides, pesticides, etc.

- **Solar Purification**

Water heated to 165 degrees for 10 minutes kills all bacteria, parasites and viruses. Water is pasteurized most quickly (@ 2hours in mid-day) when put in black bottles or thin black pots w/lids in a solar oven.

- **Distillation**

Process of boiling the water and collecting the evaporated water. Does not remove all chemicals but it does give you clean water form polluted or salt water.

Filteration

- **Filtration**

Technical classification of a filter is removing .20 to 4.0 microns. This will remove chemicals like chlorine, lead, and heavy metals.

One of the keys to proper filtration is the amount of the filter material and the amount of time the water takes to flow through the filter.

- **Types of Filters**

- Ceramic

- Activated Charcoal

- KDF

- Sand

- Carbon Block

Where do I Find Water?

Drinkable 😊

vs

Non-Drinkable Water 😞

Short Term Sources

- 😊 Hot water heaters
(40-50 gallons)
- 😊 Water in Pipes
- 😞 Toilets

-  **Swimming Pools**

Long Term Sources

(All these sources should be considered contaminated and must be filtered / purified)

- 😊 Rain / Snow
- ?😊? Lakes, Ponds, Streams
- 😊 Swimming Pools
- 😞 Water Beds

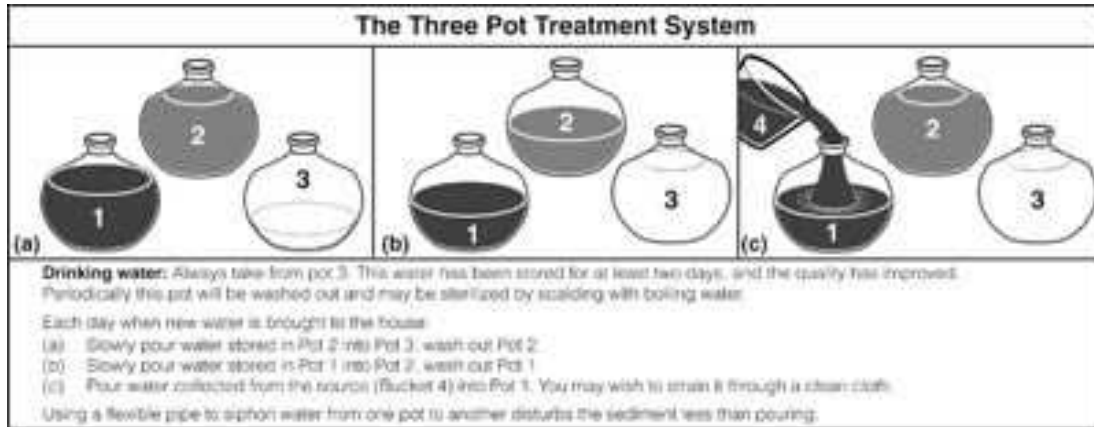


Figure 3. The three pot treatment system

