

# EMERGENCY PREPAREDNESS GUIDE

## PART ONE: WATER

If your water supply is cut off or polluted, stored water could be the most important survival item that you have. Know that unsafe water is associated with typhoid fever, dysentery and infectious hepatitis, as well as some less serious ailments. The best approach is not to presume that any water is safe – other than the sealed, pure water that you have stored. Don't be caught unprepared!

### WATER STORAGE

For each (adult) person in the family, you will need a minimum of two quarts of water per day, and up to one gallon, depending upon the size of the person, the weather and other factors. This amount will be sufficient for drinking water, teeth brushing and some food preparation – but it must be carefully allotted. Store enough for up to two weeks, in sealed plastic containers. You can purchase 5-gallon bottles from the drinking water companies (even if you do not subscribe to their delivery service) and, of course, 1-gallon bottles from the market.

Know that some stored water may develop an unpleasant appearance, taste or odor, but these properties are not harmful. You will want to keep an eye on your stored water supply and replace any containers that have leaked or been damaged. If stored water tastes “flat” after opening, just aerate it by pouring it from one container to another (sterilized) container, three or four times.

Keep plastic bottles of stored water away from gasoline, kerosene, pesticides, etc. The polyethylene plastics are permeable to hydrocarbons.

### OTHER WATER SOURCES

Other sources of liquid include: liquids in your refrigerator, melted ice cubes, stored juices, liquid from stored canned goods, water held in your hot water heater, water left in the tea kettle, even water from the toilet tank (not the toilet bowl, but the flush tank behind it; do not use “blue” or chemically treated water from the toilet, and purify if first in every case).

## **THE HOT WATER HEATER**

Water stored in the hot water heater can be used. You can prevent contamination by shutting off the valve that leads from the water heater to the water main – immediately after the earthquake or other emergency. Everyone in the family should know where that valve is, and how to turn it off. If a wrench is required, the appropriate one should be taped permanently to the hot water heater.

If you drain the hot water heater monthly (by allowing the water to flow out from it until it runs clear), you will keep the stored water free of mineral and rust deposits. An added advantage is that this procedure will lower your fuel bill and prolong the life of the heater.

Also remember that if the main service valve into the heater is closed, the heater will have to be vented before water will flow freely from the drain cock. You can achieve this by either opening a hot water faucet in the house, or by disconnecting the hot water line at the top of the tank.

## **BAD SOURCES OF WATER**

Do not use water from waterbeds for drinking because the plastic mattress covering may release undesirable chemicals into the water; also, that water may have been treated chemically in other ways. Waterbed water can be used for washing, though.

Another not-good idea is drinking from the swimming pool. Drinking water from the swimming pool can cause diarrhea because of its over-chlorination. Then, the beneficial intestinal bacteria (which you need for normal digestion) will be temporarily destroyed. So drink swimming pool water only after you have exhausted other sources of pure water.

## **WATER PURIFICATION**

Gadgets that claim to purify water often don't work, so don't rely on them. Here's how to purify any water that is cloudy or has an unpleasant smell. If you have the slightest doubt about the condition of any water for drinking, purify it! Remember, never just presume that it is safe.

First strain the water through paper towels or several layers of clean cloth to remove sediment and any floating matter. Then (if you have the means) boil

it for at least five minutes, adding one additional minute for every 1,000 feet of altitude at your location. Boil longer, if you have the heat.

If you cannot boil the water, it can be purified by the addition of liquid chlorine household bleach, or a tincture of iodine from your medicine cabinet. If you use the bleach, be sure it is liquid (like Clorox) because the granular kind is poisonous. Do not use scented or other “enhanced” bleach.

Purchase an eye-dropper and store it with the water for this purpose only. For each quart of clean-looking water, add 2 drops of chlorine, or 5 drops of iodine. If water looks cloudy, add 4 drops of chlorine, or 10 drops of iodine to each quart. Mix thoroughly and allow to stand for 30 minutes. There should be a slight odor of chlorine. If you cannot detect any chlorine smell, repeat the process and allow the mixture to stand for 15 minutes.

Bleach loses strength as time goes by, so rotate your supply. When the time comes to use it, if the bleach is a year old, double the amount called for. If it is two years old, don't use it at all – it has lost its effectiveness.

Water purification tablets are available. They are sold in drugstores and sporting goods stores, and typically will be effective for up to two years. If they become damp, however, discard them. Use according to directions.

One last caution: purify no more than a 48-hour supply of water at one time to avoid recontamination.

## **PART TWO: FOOD**

In storing foods for an emergency situation, try to include foods from all basic food groups, as well as some quick-energy items. Remember special requirements, such as pet food and baby food. No matter what, buy a good manual can opener and store it with your canned goods. You might even buy two in case one were to break or malfunction. Imagine not having one under these circumstances!

Store at least a four-day supply of food for each person. There are freeze-dried foods available from sporting and camping outlets which may be

stored for extended periods of time; but remember that these usually require water to prepare. Also, consider that you may not want to include too many salty foods – they create thirst.

### **CANNED FOODS**

Some canned foods especially helpful to have on hand are: dry-roasted, unsalted nuts; meats, poultry and fish (such as tuna); juices, fruits and vegetables. A substantial number of these items should be products that can be consumed at room temperature with little or no preparation. Remember that you will probably have no refrigeration, so packages should be single-serving size or a size just big enough to serve the whole family one time. That's because you'll obviously have difficulty storing leftovers safely. Check the labels on canned poultry and meats, such as ham. Many of these must be kept refrigerated, but some have been sterilized to store at room temperature.

### **STORAGE TIME**

Commercially canned food is generally safe as long as its container remains intact. This does not mean, however, that the contents are in a state of suspended animation. For example: The liquids inside cans leech the nutrients out of the solids, as time goes by; canned juices lose about 25% of their vitamin C in one year; canned asparagus will not only lose its nutrients, but will fade to a pale yellow after a year's time.

Temperature has a significant effect on stored foods of all kinds. Food stored at 67 degrees will remain at peak quality twice as long as food stored at 87 degrees. Most canned food items will retain their quality and nutrient value for 1 year, if stored in cool temperatures. If the storage area temperature goes above 75 degrees even for a short while, all storage times must be cut in half.

Exceptions are, for the following items, 6 months maximum storage time:

- All tomato products; asparagus, beets and green beans (1 year for all other vegetables)
- All citrus fruits; mixed fruits (individual fruits, other than citrus, can be stored for 1 year)
- All fruit juices
- Peppers, pickles and sauerkraut

## **STORAGE CONDITIONS**

Make sure that your storage area remains dry. Cans rust, and that rust can penetrate all the way through the can, contaminating the contents. Darkness is also good for storage, particularly if you store anything in glass or other transparent containers, because light can accelerate chemical reactions.

## **TREATS & FAVORITES**

In view of the fact that this will be a stressful time for everyone, be sure to set aside sweets, candy or other “treats” – even if you don’t usually have such items on hand. They seem to have a cheering effect on people.

Of course, you’ll want to purchase, as much as possible, those food items that your family members already like to eat. That will make rotating these foods with items used in your regular daily meals far easier. Rotating, as you can see, is the only thrifty way to insure that food put aside for emergencies remains fresh and nutritious.

## **PACKAGED FOODS**

Storing packaged food provides you the opportunity to have on hand both the high-energy items we previously discussed, and foods to help round out your supply to include items from all the basic food groups. Again, plan to store at least a 4-day supply of food for each person in the household.

## **HIGH-ENERGY FOODS**

High-energy foods might include:

- High-protein bars
- Breakfast bars
- Granola bars
- Peanut butter
- Boxed juices
- Jerky (not too salty)
- Raisins
- Dried fruits\*\*\*
- Tofu (non-refrigerated kind)

\*\*\*Dried fruits will keep only one month at room temperature – but up to six months in the refrigerator. Recycle this item!

## **OTHER FOODS**

Additional packaged items that you might wish to include:

- Crackers, in airtight containers\*
- Tea bags, instant coffee
- Dried soups, or bouillon cubes
- Cereals
- Powdered or canned milk\*\*
- Instant cocoa
- A few spices and seasoning packages\*
- Sauces (may be used for barbecue), vinegar
- Jelly
- Mayonnaise and catsup (especially if you have frozen or canned bread)
- Sugar
- Oil (for barbecue, candles, sauces)
- Pet food

\*Remember to watch out for salty foods which make you thirsty.

\*\* Regarding storage of pantry milk products:

- Infant formula will keep 12-18 months
- Canned evaporated and whole milk will keep 4-6 months
- Sweetened condensed milk will keep 4 months
- Best bet: nonfat dry milk will keep 1 year
- Whole dry milk will keep only 3 months
- Non-dairy creamer will keep 2 years

## **STORAGE TIMES**

All storage times assume cool room temperature storage conditions.

Other packaged food, including nuts and sauces, will keep up to a year under optimum storage conditions.

Freeze-dried foods, available at sporting goods and camping stores, will keep (as labeled) for extended periods – but remember that these usually require water to prepare.

Remember to provide, as much as possible, foods that your family will enjoy, and some sweets or other “treats” (even candy) for this stressful time.

## **PART THREE: ESSENTIAL NON-FOOD ITEMS**

- Bedside: flashlight and hard-sole shoes
- Battery-operated radio(s) and flashlights
- Batteries
- First-aid kit, with a good manual (and take a good course in first aid!)
- Prescription drugs
- Extra pair of prescription glasses
- Contact lens supplies and other special supplies
- Feminine products and toilet paper
- Plastic sheeting (for broken windows or other)
- Candles (if no danger of broken gas lines) with deep holders
- Matches
- Fire extinguisher
- Chlorine liquid bleach, iodine, or water purification tablets – for purifying water
- Plastic trash bags (waste disposal- can also keep you or items dry)
- Pocket knife, such as Boy Scout knife or Swiss Army knife
- Scissors
- Black plastic electrician's tape
- Candy
- Saw
- Shovel
- Axe
- Vise grips
- Rubber "gripper"
- Crowbar
- Special wrench for water and gas shut off

## **PART FOUR: SANITATION**

After an earthquake or other emergency there may be some cleaning up to do, even before you attempt to prepare water for drinking or food to eat. Remember that you don't have to do everything in the first few minutes

(give yourself a break.) Especially without running water, cleanup can be a chore – so look everything over, and make a plan before you begin.

### **Cleaning Up**

It will help if you have stored some heavy gloves, and if you have stored with care any caustic household supplies that you might have. Disposable masks that cover the mouth and nose can make breathing easier in the presence of significant dust or unpleasant fumes, but be aware that these typically will not protect against toxic fumes. The masks are available at drugstores and some garden nurseries. Probably, you will want to clean up spilled chemicals and any broken glass first.

Remember that you can use the water from a waterbed or swimming pool for cleanup, as these are not good sources of drinking water. If the sewer lines are not damaged, the toilet may be flushed with buckets of swimming pool water – but be sure not to flush it until you are certain that the lines are unbroken and that you won't need the water in the tank.

### **Inspect for Damage**

In the case of earthquake:

While you are assessing the damage to your home, inspect the chimney, if you have one. Check the places where the chimney meets the adjacent walls, the ceiling and the roof. Check for cracks, sags, and other irregularities in all the ceilings, walls and floors. Know that stucco will often crack where the walls join the foundation (an example of different masses moving at different rates.) Even a crack that runs all the way around the base of the building is probably not a symptom of serious structural damage, though, especially in the absence of any other evidence.

Check the places where your cupboards and cabinets meet the walls and ceiling. Keep in mind that aftershocks may very well occur – and if you have any doubts about the structural integrity of any area, stay away from that area. If it is the whole house that worries you, camp outside.

### **Disposal Supplies**

The single most important sanitation item you store might be plastic garbage bags. A rigid container with a tightly fitted lid, and plastic liner-bags for it, is extremely useful for waste disposal (and can even be used as an emergency toilet.) You might use such a container as a storage receptacle for some of your emergency supplies.

## **Disposal Methods**

Discard lightweight paper trash in plastic bags and tie them tightly. Double-bag and tie off especially carefully those disposables containing discarded food and other potentially malodorous wastes. Remember that pets and other animals often wander loose after a natural disaster, so store your trash in a protected area.

If you are in an area that must wait an especially long time for emergency services, you may want to bury these trash bags. It is probably a dangerous idea to consider attempting to burn trash (even in a metal trash can) because of the danger that any fire could burn out of control, or ignite adjacent flammable materials. Remember, emergency service agencies, including fire departments, will be severely overtaxed and may not be able to reach you in any event.

Most of all, reassure everyone – don't forget yourself – and try to stay calm and think things through. If you have stored water and food for your family as we've been discussing, this is a good time to give yourself a pat on the back.

Stay tuned to your radio for all kinds of help, direction and information.

## **PART FIVE: COOKING MEDIUMS**

In the event of an earthquake (or other emergency) it is likely that your utility services will be interrupted, possibly for several days. In that situation, you will eventually want to cook some of the food from your stored supplies, as well as perishables from your refrigerator and your freezer. (Keep the freezer closed as much as possible; frozen foods will hold a long time without electricity, because of its insulation and the residual coldness.) Also, if you have enough fuel, boiling water is the easiest method of purification (see "Water" section.) Obviously, without power, you cannot use the stove or oven, so here are some alternatives.

### **The Fireplace**

Your first thought might be to use the fireplace (also a good source of heat if you have stored firewood or have other wood to burn) but first, you must

determine that the firebox and chimney are not damaged. During an earthquake, the chimney may have moved at a different rate than the rest of the structure, which would result in a separation where they connect. If the separation is slight, the fireplace is still usable; but if it is pronounced or if there are wide cracks through adjacent bricks or if the chimney is tilted, it is not safe to use the fireplace. As a matter of fact, because of the danger of aftershocks, it would be wise to stay away from that part of the building in case the chimney should fall.

### **The Barbecue**

The next logical thought, especially to a Southern Californian, is to use the barbecue. If that is your choice, you will want to be sure to store charcoal and lighter fluid – and store the charcoal in such a way that it will stay dry. Even a small charcoal fire will last long enough to cook meals for several families, so share with those around you. An important caution about charcoal cooking: Regardless of the weather, burn charcoal only outside in a well-ventilated area. Never bring the barbecue indoors (even if you think it has stopped burning) because smoldering coals can burn up your oxygen, and they release deadly carbon monoxide, which can kill you.

### **The Camp Stove**

Certainly use a camp stove or other tabletop burner, if you have one. (Remember to carefully store the requisite fuel.) Use the same cautions about lighting matches that you exercise when lighting candles. If there is the slightest chance of leaking gas in your area, do not strike a match for any reason. Spilled flammable products pose a similar hazard.

### **The RV**

If you have a camper or recreational vehicle, you may note that it is prepared for an emergency almost like a mini-shelter. And since RVs are designed to handle the bumps and twists of highway travel, they will stand up to quite a bit of ground shaking. So, unless something big has fallen on it, a road-ready RV will really make things easier for its owners.

## **PART SIX: EMERGENCY KITS FOR CAR AND OFFICE**

Even though you have carefully stored water, food and other supplies in preparation for emergencies, it is a good idea to have a mini-emergency kit in the trunk of your car, and even one in your office, depending on its location.

An excellent container for this kit might be a Styrofoam cooler. Of course, you may use a more sturdy and expensive container – but the important feature is insulation, especially in the car. Alternatively, you could use a small suitcase, a backpack, or even a cardboard box. It should be small enough to carry without difficulty.

Water is heavy, so you can't carry much; but as least include 1 gallon in a sealed container (commercially purchased will taste better and keep longer than home-bottled.)

Other items to include:

- A pair of sturdy walking shoes
- A small first aid kit and a first aid manual
- A flashlight and fresh batteries
- One day's supply of ready-to-eat high energy food
- A half-dozen large, heavy-duty trash bags (may be used to keep you dry, or as shelter)
- A local map, with directions to community services
- A blanket (especially for shock reaction)
- A pocket knife
- A roll of heavy plastic tape
- Any prescription medication that you require
- An extra pair of prescription glasses, if needed