

# Be Clean - Sanitation in an Emergency

By Gemie Martin

One of the greatest challenges in an emergency is how to keep our areas sanitary and safe when services we have become accustomed to are suddenly unavailable. Our municipal water and sewer systems are dependent on electricity to keep up and running. If the electricity that powers these systems is down—no service. In addition, pipes can be broken during a disaster (such as an earthquake) which could also disrupt the water and sewer system and change life as we know it. A third possibility would be contamination of the water supply. This could be due to natural or man-made reasons. If the water coming into your home is deemed to be unsafe for consumption, you will want to cut that water supply to your home off. Teach family members how to turn it off at the street and keep the appropriate tools to accomplish this handy.

## Handling Waste in an Emergency

We will consider three types of waste:

1. **Trash (or rubbish):** Examples would be paper, cardboard boxes, empty (clean) cans, empty (dry) plastic containers, etc. These are easy to store and should be kept separate from other wastes which need special disposal methods. They do need disposed of eventually to avoid pest infestations.
2. **Garbage:** This consists of unused or spoiled food and containers with food in them. These could attract pests and grow harmful bacteria. This type of garbage needs to be contained in garbage bags. Large heavy-duty bags work best. The smaller kitchen type should be stored within larger ones. Consider composting kitchen scraps or burying them in your garden. (Avoid doing this with meat and animal products which would attract living animals and flies.) If garbage collection is down, you will need to take these to an appropriate dumping area.
3. **Human and animal waste:** This article will deal mostly with this type of waste. Human wastes need to be disinfected and contained in a way that they cannot become a serious health hazard to you and your family. A large garbage can with a tight lid should be designated for the bags containing this waste until local authorities can help collect and dispose of it.

## Toilets

**Using the toilets in your home as emergency toilets.** If you are sheltering in your home and the toilet(s) there are intact, they can be drained and used. **Do not flush the toilets if you suspect damage to the sewage pipes.** Drain the toilet and dry it out. Tape the handle to prevent the toilet from being flushed, or (even better) disable the lever from inside the tank. Lift the seat and line it with a heavy-duty garbage bag. Secure this bag to the outside of the bowl with duct tape or other heavy-duty tape. Lower the seat and it is ready for use. After each use where there is solid waste (fecal matter), you will need to pour a small amount of carbon material such as sawdust, shredded newspaper, or kitty litter into the bag on top of the waste. If you have two toilets, it might be a good idea to designate one for solid waste and one for urine. Close the lid of the toilet after each use. Urine is considered sterile and can be dumped in your yard (note that the salt in it will kill most plants, so dispose of it in an area without useful vegetation). For each toilet, you are using as an emergency toilet, you may wish to put another large garbage bag over

the bowl (lid and all) to help contain the smell and prevent it from attracting flies if they are present. After it has been used several times un-tape the bag and (with it still in the toilet bowl) close it securely with a twist tie. Remove it from the toilet bowl directly into a large bucket with a sturdy handle. Carry this to the above-mentioned specially designated garbage can. Immediately re-line the toilet for the next use. It is a good idea to have disposable gloves to use each time you handle wastes or a pair of latex gloves which you disinfect after each use. Consider having air freshener available to help control odors.

**Caution: Small children need to be kept from the toilet area because of the danger from the chemicals, suffocation danger from the bags, and contact with bacteria which could result in diarrhea and other illness.** Consider locking the bathroom door between uses. The door key could be put on a chain, secured to the door frame with a screw. A small cup hook could be mounted in the corner or along the side of the door frame to take up the slack of the chain so it will be long enough for the key to reach the door and yet remain attached to the door to prevent it getting lost.

**Portable Toilets.** There are a number of these available from camping, emergency preparedness, and RV supply stores. The chemicals to disinfect these are also available at these same stores. Lids are available through emergency preparedness centers that can be used to turn a five- or 6-gallon bucket into a portable toilet. It can be used to store items such as bags, toilet paper and other sanitation supplies when not in use. Line portable toilets with heavy duty garbage bags and treat waste as detailed for a home toilet above. You might consider getting two buckets of different colors and designating one for solid waste and the other for urine. Use caution when using these because they may be unstable to sit on. For elderly or handicapped persons, you may wish to use a bedside toilet for stability.

### **Disinfectants and Odor Control for Emergency Toilets**

- Chlorine bleach solution. Use 1 part liquid bleach (5-6% sodium hypochlorite) to 10 parts water. **Note: Dry bleach is caustic and not safe for this type of use.** Urine has ammonia in it and as previously mentioned, is sterile so it does not need to be disinfected.
- Reliance Double Doodie waste bags with Bio-gel a gelatin that solidifies wastes and controls odors. Fairly expensive at about \$20.00/box of 6 sets (bags and solution). Good for an emergency evacuation kit
- Borax: This is used to cut down the stench. (1 teaspoon every time you do your duty)
- Lime (calcium hydroxide): Available where gardening supplies are sold. This is used to break down the waste. (1 teaspoon every time you do your duty) Store this in its original paper bag and off the floor.
- Baking Soda: will help to control odor; also stops mold, fungus, and mildew.
- There are other chemicals and methods of deodorizing and treating human wastes. Go online and find out what is available.

### **General Disinfecting**

- 3% Hydrogen Peroxide (Put in a small spray bottle, no water added). To disinfect surfaces, just spray it on and wipe it off.
- White Distilled Vinegar: Put in a small spray bottle, no water added. Studies show that vinegar kills 99% of bacteria, mold, and 80% of germs (viruses). To disinfect surfaces, just spray it on and wipe off.

- Spraying solutions of vinegar and hydrogen peroxide, one after the other, in any order, kills virtually all Salmonella, Shigella or E. coli bacteria on heavily contaminated surfaces.

**Caution: Ammonia was suggested in some of the articles I read. I have left it out of this handout on purpose. Make sure not to use both ammonia and chlorine at the same time. They are both disinfecting, but together they form chlorine gas which can be deadly.**

### **Other Health and Sanitation Practices**

Hand washing and hand sanitizing is an absolute must. Hands must be sanitized after using the bathroom, handling wastes and other refuse, and before preparing and/or eating food. If water is shut off, even though the faucets are not working, we have found it very helpful to have a hand sanitizer (with a pump dispenser) at each sink and basin in the home. That is where we are accustomed to cleaning our hands.

Disinfectant wipes are a great idea to have available. Toilet seats should be disinfected preferably after each use. Other surfaces in the home that are touched by family members such as doorknobs and faucet handles should also be disinfected regularly.

Have a good supply of diapers for babies. Dispose of diapers with other human wastes.

I found conflicting information on how to bury human waste in the yard **if you absolutely must**. One source said it can be buried in trenches 24-30 inches deep at least 100 feet from wells or water supply. Another source said it was okay to bury 50 feet from water supplies and wells. I am hoping that if burying human waste becomes necessary, we will get guidance on how this is to be done.

### **Tips for Staying Clean in an Emergency Situation**

As much as possible, continue regular hygiene habits such as brushing your teeth, washing your face, combing your hair and even washing your body with a wet washcloth. This will help prevent the spread of disease and irritation as well as help relieve stress.

- Keep your fingers out of your mouth. Avoid handling food with your hands.
- Purify your drinking water. See: <https://www.churchofjesuschrist.org/topics/food-storage/drinking-water-guidelines?lang=eng>
- Sterilize eating utensils by heat. You can also rinse dishes in purified water that has additional chlorine bleach added to it. (Use 2 1/2 teaspoons bleach per gallon of purified water.)
- Keep your clothing as clean and dry as possible, especially under-clothing and socks.

#### **Sources:**

<http://www.nationalterroralert.com/sanitationhygiene/> (This is a blog that is not tied to a government agency)

Salsbury, Barbara and Simmons, Sandi. *Preparedness Principles*. Springville Utah: Horizon, 2006. Chapter 30 pp.199-203.

<https://www.primalsurvivor.net/emergency-toilet-options/>

<https://www.churchofjesuschrist.org/topics/food-storage/drinking-water-guidelines?lang=eng>