



## Shock Chlorination

### How to disinfect your private water well system after a storm

If your well system is damaged, the following instructions for the disinfection process will not work. An indication that your well is damaged can be a decrease in water pressure once turned on. Contact a certified well or pump contractor for examination. A list of licensed well professionals is available from the Department of Natural Resources at (225) 342-5540.

#### Alternative Water Sources

If you think your well system may be contaminated, use alternative sources of water until you have disinfected your well. Other sources include: using bottled water, water boiled for five minutes, or water from a source you know is not contaminated.

#### Do not use contaminated water for:

- Drinking
- Cooking
- Making ice
- Bathing/washing in any form
- Washing clothes or dishes

After a flood, your well water may be contaminated. Well disinfection can eliminate or reduce harmful bacteria, viruses, or other microorganisms that may be found in your drinking water.

Well disinfection will not provide protection from pesticides, heavy metals, and other types of non-biological contamination. If such contamination is suspected, due to the nearness of these contaminant sources, special treatment is required.

#### Electrical System

After flood waters have receded and the pump and electrical system have dried, do not turn on the equipment until the wiring system has been checked by a qualified electrician, well contractor, or pump contractor.

#### Preparing for Shock Chlorination

You will need these tools:

- Any tool necessary for well access
- A garden hose long enough to reach from an outdoor faucet to the well
- Protective goggles/gloves/rubber boots
- Clean five-gallon bucket
- Five gallons of uncontaminated water (e.g. bottled water)
- A funnel
- Unscented household liquid bleach with at least 5% sodium hypochlorite, less than six months old (should have a strong chlorine odor)



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#### How to Calculate How Much Bleach to Use

The amount of bleach to be used in the disinfection process will depend on the water depth inside your well.

**Do not drink, make ice or cook with your water until it has been tested for bacterial contamination.**

To calculate the water depth in your well, subtract the distance from the land surface to the water in the top of the well from the total depth of the well. If you are uncertain, use the measurement of the total well depth using the table below. If this process for disinfecting a well seems like more than you want to handle, call a plumber or licensed water-treatment specialist to have it done for you. It's important to have the job done right.

Table 1. Amount of liquid bleach needed for disinfection.

Water Depth (feet)	Well Diameter (inches)				
	4	6	8	24	36
10	6 cups	7 cups	8 cups	20 cups	2.5 gal
20	7 cups	8 cups	10 cups	2.5 gal	4.5 gal
50	8 cups	10 cups	14 cups	5 gal	10.5 gal
100	10 cups	16 cups	22 cups		
150	12 cups	20 cups	30 cups		
200	14 cups	1.5 gal	2.5 gal		
400	22 cups	2.5 gal	4.5 gal		
8 cups = 0.5 gallon; 16 cups = 1 gallon					

**WARNING:** Excessive chlorination can be harmful. Follow Table 1 carefully.

#### Step-by-Step Instructions

##### STEP 1: Muddy/Cloudy Water

- If your water is muddy or cloudy, run the water from hose connected to an outside spigot until water runs clear.

##### STEP 2: Power Off

- Turn off electrical power to the pump by turning off the circuit breaker.
- Switch water softeners and household filters to bypass mode or the "out of service" position.

##### STEP 3: Open the Well

- Remove all debris near the well. Check the well for damage. Remember, if your well is damaged this process will not work.
- Remove the well cover.

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#### STEP 4: Mixing Directions

- Fill the five-gallon bucket about three-fourths full with clean, uncontaminated water.
- Use Table 1 to determine how much bleach is needed and add bleach to the bucket of water.
- Using the funnel, pour the bleach solution into the well plug or well casing.  
*Be careful not to splash/spill the solution.*

#### STEP 5: Recirculate the Chlorinated Water

- Turn on electrical power to the pump by turning on the circuit breaker.
- Connect the garden hose to an outdoor faucet close to the well.
- Place the garden hose into the well casing or into a funnel in your well's access point, depending on the size.
- Turn on the water and let it run for 30 minutes, or until you smell bleach from the water running into the well.

#### STEP 6: Run Chlorine Solution Through Faucets

- Run the chlorinated water throughout the plumbing system inside the house by turning on each tap until you smell bleach.
- Repeat this step for both hot and cold taps, toilets, shower/bath taps, and outside faucets.
- Run your dishwasher and clothes washer through one cycle.
- If you have an ice maker, let it run, but dispose of all the ice it produces.
- Allow the chlorinated water to remain in the system for 8-24 hours. Do not turn on the taps or drink the water during this time.

#### STEP 7: Flush the Chlorinated Water

- Connect the garden hose to an outdoor faucet and run the water until you no longer smell chlorine. Keep the running water away from your septic system, landscaping and bodies of water.
- Turn on each fixture you ran in STEP 6 until you no longer smell chlorine.

#### STEP 8: Reconnect Treatments

- Disinfect home water softeners or household filters according to the manufacturer's instructions and then reconnect those devices.

#### STEP 9: Testing

- Have your water tested for the presence of total coliform and E. coli bacteria 7-14 days after disinfection.
- Follow up with two more tests, one in the next 2 to 4 weeks and another in 3 to 4 months.

#### Resources

For more private wells information and to find a certified water testing lab, visit: <http://ldh.la.gov/PWI>  
If disinfection attempts fail, the well may need to be cleaned again before it is disinfected again. Contact a contractor or local health department for help.



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### References

- Texas A&M AgriLife. How to Disinfect a Private Well System in 7 Steps.
- EPA (2005) What to Do After the Flood.
- Texas Commission on Environmental Quality (2017) Disinfecting Your Private Well.
- CDC. Disinfecting Wells After a Disaster.