



## **Domestic Well Safety following an emergency:**

**After an emergency such as a power failure, loss of pressure or flood event, it is safest to drink bottled water until you are certain that your water is free of contaminants and safe to drink.**

Drinking water wells are best disinfected by a well or pump contractor. If you suspect that your well might be contaminated (loss of pressure, power failure or flood event), contact your local or state health department or agriculture extension agent for specific advice on disinfecting your well. Use this guidance after checking with local authorities for flood precautions for private wells in your area.

### **Safety Precautions to Take Prior to Well Disinfection:**

Clear hazards away from wells before cleaning and disinfecting them. Follow these precautions:

- Turn off all electricity to the well area before clearing debris. Do not attempt to repair the water system unless you are experienced with this type of work: electrical shock can occur. Inspect all electric connections for breaks in insulation and for moisture. Connections must be dry and unbroken to avoid electric shock.
- Carefully inspect the area around the well for hazards such as power lines on the ground or in the water; sharp metal, glass, or wood debris; open holes; and slippery conditions.
- Do not enter a well pit or sump. Gases and vapors can build up in well pits, creating a hazardous environment.
- Before the power is turned back on for the well, a qualified electrician, well contractor, or pump contractor should check the equipment wiring system.
- Wear protective goggles or a face shield when working with chlorine solutions. Chlorine solutions may cause injury to the eye, irritate skin, and damage clothing.
- Work in well-ventilated areas and avoid breathing vapors when mixing and handling chlorine solutions.
- Warn users not to drink or bathe in water until all the well disinfection steps have been completed.

### **Follow these steps:**

1. If the well is equipped with an electrical pump, turn off all electricity and clear debris from around the top of the well.
2. Repair the electrical system and pump if needed. Contact a qualified electrician, well contractor, or pump contractor if you are not experienced with this type of work.
3. Start the pump and run water until it is clear. Use the outside faucet closest to the well to drain the potentially contaminated water from the well and keep the unsafe well water out of the interior household plumbing. If there isn't a pump, bail water from the well with a bucket or other device until the water is clear.
4. If the well is connected to interior home plumbing, close valves to any water softener units.
5. Use Table 2 below to determine the amount of liquid household bleach needed to disinfect the well. Use only unscented bleach.
6. Using a 5-gallon bucket, mix the bleach from Table 2 with 3-5 gallons of water.
7. Remove the vent cap.
8. Pour the bleach water mixture into the well using a funnel. Avoid all electrical connections. Attach a clean hose to the nearest outside faucet and use it to circulate water back into the well for thorough mixing.



9. Rinse the inside of the well casing with a garden hose or bucket for 5-10 minutes.
10. Open all faucets inside the home and run the water until you notice a strong odor of chlorine (bleach) at each faucet. Turn off all faucets and allow the solution to remain in the well and plumbing for a minimum of 12 hours.
11. After at least 12 hours, attach a hose to an outside faucet and drain the chlorinated water onto an area without plants or other vegetation, such as a driveway. Continue draining until the chlorine odor disappears. Avoid draining into open sources of water (streams, ponds, etc.).
12. Turn on all indoor faucets and run water until the chlorine odor disappears.
13. Until well water has been tested, boil it (rolling boil for 1 minute) before using or use another alternative water source. Wait at least 5-7 days after disinfection or all traces of bleach are gone, and then have the water in your well sampled. Water sampling cannot be done until all traces of chlorine have been flushed from the system.

Table 2. Approximate Amount of Bleach for Disinfection of a Drilled or Driven Well

Depth of Water	Diameter of Well Casing						
	2 inches	4 inches	6 inches	8 inches	10 inches	24 inches	36 inches
10 feet	¾ tbsp	3¼ tbsp	½ cup	¾ cup	1¼ cups	7 cups	1 gal
20 feet	1½ tbsp	6½ tbsp	1 cup	1½ cups	2½ cups	14 cups	2 gal
30 feet	2¼ tbsp	9¾ tbsp	1½ cups	2¼ cups	3¾ cups	1¼ gal	3 gal
40 feet	3 tbsp	13 tbsp	2 cups	3 cups	5 cups	1¾ gal	4 gal
50 feet	3¾ tbsp	1 cup	2-½ cups	3¾ cups	6¼ cups	2¼ gal	5 gal
100 feet	7½ tbsp	2 cups	5 cups	7½ cups	12½ cups	4½ gal	10 gal

Notes:

- Use only unscented household liquid chlorine bleach.
- Bleach concentrations are generally between 5-6% and 8.25%.
- Quantities given in this table are approximate and are rounded to the nearest practical measurement. Amounts given are calculated in accordance with reaching a chlorine concentration of >100 mg/L.

Key:

- tbsp: tablespoon
- gal: gallon
- 1 cup = 8 fluid ounces = 16 tablespoons
- 1 gallon = 16 cups

CDC Disinfection of Drilled or Driven Wells After an Emergency-

<https://www.cdc.gov/healthywater/emergency/drinking/disinfection-wells-drilled.html>