

How to Disinfect Your Well Using Household Bleach

These guidelines describe how to disinfect a domestic well after a **Total Coliform Bacteria** test result indicates contamination. Disinfecting the well and plumbing system with chlorine is often an appropriate first step before considering permanent treatment equipment.

This procedure introduces a high concentration of chlorine into the well and plumbing system to disinfect the system. If you are unfamiliar with your well, pressure tank, holding tank, or other components of your water system, contact a qualified well or pump professional for assistance.

Until follow-up testing confirms that your water is safe to drink, use an approved alternative source of drinking water or boil water at a rolling boil for 1 to 3 minutes before using it for drinking, cooking, brushing teeth, or other consumption.

Step 1: Determine How Much Bleach You Need

Use plain, unscented household bleach containing at least 5.5% sodium hypochlorite.

Calculate the amount of water in your system:

1. Multiply the depth of your well in feet by 1.5 to estimate the gallons of water in the well.
2. Add the gallons of water in your pressure tank.
3. Add the gallons in your holding tank, if applicable.

Example:

100-foot well $\times 1.5 = 150$ gallons

Pressure tank = 40 gallons

Holding tank = 1,500 gallons

Total water to treat = 1,690 gallons

Calculate the amount of bleach needed:

1. Divide the total gallons of water in the system by 496. This gives you the approximate number of quarts of bleach needed.
2. Divide the number of quarts by 4 to convert the amount to gallons.

Example:

1,690 gallons $\div 496 = 3.4$ quarts of bleach

3.4 quarts $\div 4 = 0.85$ gallons of bleach

This amount will produce an approximate chlorine concentration of 25 ppm.

Step 2: Add Bleach and Disinfect the System

1. Bypass or disconnect water-treatment equipment before chlorinating. This may include water softeners, filters, carbon filters, reverse-osmosis systems, and other treatment devices.
2. Locate the screened return bent vent on the sanitary seal at the top of the well and unscrew it. Do not remove the four hex-head bolts that hold the well seal together. If your well does not have an accessible screened vent, contact a qualified well or pump professional.
3. Attach a garden hose to the faucet nearest the well. You may need a small nozzle or adapter so the hose can direct water into the approximately ½-inch opening in the sanitary seal.
4. Using a funnel, carefully pour the calculated amount of bleach into the well. If your system has a holding tank of 500 gallons or more, add a proportional amount of the bleach directly to the holding tank.
5. Place the garden hose into the well opening and run water back into the well. This recirculates the chlorinated water throughout the water column.
6. Periodically remove the hose and check the water for a strong chlorine odor. As a general estimate, allow approximately 1 hour of circulation for every 100 feet of well depth. Depending on well depth and flow rate, circulation may take 30 minutes to several hours.
7. Once a strong chlorine odor is noticeable in the hose water, turn off the water and remove the hose from the well.
8. Reinstall the screened return-bend vent.
9. Inside the home, turn on each hot and cold water faucet, one at a time, until you can smell chlorine. Then turn the faucet off. Remember to include showers, tubs, and other water fixtures that are part of the system.
10. Allow the chlorinated water to remain in the well and plumbing system overnight without using the water.

CAUTION: Do not use the chlorinated water during this contact period. This includes drinking, cooking, bathing, washing clothes, washing vehicles, watering livestock, or irrigating lawns and landscaping.

Step 3: Flush the System

1. Attach a garden hose to an outside faucet and open the faucet approximately halfway. Discharge the chlorinated water to a suitable location away from the septic system, surface water, wells, and sensitive vegetation or landscaping.
2. Run the hose for approximately 2 hours, then shut it off for approximately 1 hour.
3. Continue alternating between flushing and resting until you can no longer smell chlorine in the water coming from the hose.
4. Once the well has been flushed, flush the plumbing inside the home. Turn on each faucet individually and run the water until the chlorine odor is gone.
5. Resume water use and use plenty of water during the next 5–7 days to thoroughly flush the system.
6. Continue using an approved alternative drinking-water source or boiling water for consumption until follow-up testing confirms that the water is safe.

Step 4: Retest Your Water

After all traces of chlorine are gone, wait at least 5 days before collecting a new sample for Total Coliform Bacteria testing.

Once testing confirms that the water is free of coliform bacteria, consider testing the well every six months or as otherwise recommended for your water supply.

If the well continues to test positive for Total Coliform Bacteria after disinfection, contact a qualified well professional to investigate the source of contamination.