

Follow these steps to disinfect your spring if bacteria were detected in your water, your spring system was repaired, or if the system was flooded or contaminated.



Before You Disinfect Your Spring

Visually inspect your spring system and make any repairs.

- Look for and fix any sources of bacterial contamination around your spring, visible cracks, blockages at the inlet or outlet, debris inside the spring box, loose caps or fittings, etc.

Consider testing for nitrate and chloride to help determine the source.

- A septic system or nearby farm could be the source of contamination.

Draw enough water to last for 3 to 5 days.

- Boil for one minute any water used for drinking, cooking, washing food, brushing teeth, or making ice or baby formula. You can also get or buy water from another safe source. **Note: boiling water may concentrate other contaminants, like nitrate, in your spring.** Only boil your water if you know there are no other contaminants in your water.

Flush your system if the water appears cloudy or full of sediment.

- Turn on an outside spigot and flush approximately one volume of the well. Be careful not to pump the well dry, which could damage it and cause your water to become contaminated.

Step-by-Step Guide to Disinfecting Your Spring

You will be adding calcium hypochlorite pellets and chlorine directly to your spring. Chlorinated water will then travel throughout the plumbing and faucets in your home.

1. Disconnect or bypass any water treatment devices, like water softeners or reverse osmosis units, since bleach can damage them. You will need to disinfect these devices separately according to the manufacturer's instructions.
2. Gather materials needed: rubber gloves, eye protection, household chlorine bleach that contains no scents or additives, calcium hypochlorite pellets (with no algicides, chlorine stabilizers/conditioners, acids, or other disinfectants), 5-gallon bucket, small brush, garden hose, and a measuring cup. **Wear rubber gloves and eye protection whenever you are working with bleach.**
3. Keep children and pets away from the area, especially from bleach and chlorinated water. If pump-operated, turn off power to the pump.

4. Calculate the amount of disinfectant you will need for your spring. Use fast-dissolving 65-70% calcium hypochlorite solid pellets (with no additives). Estimate the volume of water in the spring box. You will need **3 ounces of pellets for every 100 gallons of water**. For many spring boxes, **2 feet in depth is 100 gallons of water**, but you may need to modify this calculation based on your spring. One cubic foot of water is equal to 7.5 gallons. The goal is for the water to reach a chlorine concentration between 100 and 200 ppm.
5. Flush and drain the spring box and remove debris and sediment. Scrub the interior of the spring box with a strong chlorine solution (1/2 cup of plain, unscented, liquid laundry bleach mixed in 5 gallons of water).
6. Allow the spring box to fill with fresh water. Add 3 ounces (85 grams) of the calcium hypochlorite pellets for every 100 gallons of water in the spring. Keep the overflow outlet open.
7. Go to the faucet inside your home that is farthest from the spring and run the cold water until you smell bleach. Turn the tap off, then do the same with the hot water. Repeat this step for all faucets, shower and baths, toilets, and outside spigots. **Remove any screens on your faucets as they can become clogged by debris dislodged during the disinfection process.**
8. **Leave the chlorinated water in the plumbing for at least 8 hours, but no more than 12 hours** to give the chlorine time to disinfect your system. If the flow rate is too high to keep the chlorine solution for 8 to 12 hours, use a tank to feed the chlorine solution into the spring box continuously for at least 8 hours.
9. After 8 to 12 hours, flush the system until you no longer smell bleach. Start with an outside spigot. Connect a garden hose so it drains onto a gravel driveway or brushy area away from your septic system and any streams. Flushing large volumes of chlorinated water into your septic system may damage it. You may want to run the water at less than full flow or turn the tap off periodically to allow the spring to recharge so it does not run dry.
10. Flush the taps inside your home by running both the hot and cold faucets until you no longer smell bleach.
11. Remove, clean, then replace any screens on your faucets as they can become clogged by debris dislodged during the disinfection process.
12. Retest your water 2 to 3 days after the chlorine smell is gone. Order the bacteria test (Kit A) from the Health Department Lab. You may want to retest 2 to 4 weeks later to ensure that bacteria do not continue to enter the spring. Sanitize the faucet with rubbing alcohol and a cotton swab before collecting the sample.
13. Continue to either boil your water or get water from a safe source until no bacteria are detected.

More Information

- Visit [HealthVermont.gov/water/coliform-bacteria](https://www.healthvermont.gov/water/coliform-bacteria)
- **Questions?** Call the Drinking Water Program at 802-489-7339