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WELL DISINFECTION PROCEDURE

1. **A water well should be disinfected:** (1) when the well is newly drilled; (2) when repairs to the well or pumping equipment are completed; (3) when test results indicate the well is contaminated; (4) following periods of flooding or excessive rainfall. Especially for shallow wells; (5) if there is an infant in the home; or (6) when there has been a sudden change in water turbidity, odor or taste.
2. Use regular, unscented household bleach that you purchase at the grocery store unless it has been recommended to you that you use the stronger calcium hypochlorite ("pool shock") or sodium hypochlorite.
3. Follow the charts on the back of this page to determine the correct amount of chlorine to disinfect your well. Most new wells are 6 inches in diameter.
4. Remove the well cap and pour the recommended amount of bleach or hypochlorite directly into the well. You may dilute the bleach in a pail, but make sure you use the total recommended amount of the bleach.
5. Using a garden hose, run/circulate water back into the well to ensure that the bleach is thoroughly mixed with the well water. Continue circulating water into the well until you can smell the chlorine in the water that you are running back into the well. **The time necessary to accomplish this varies greatly with the depth and flow of the well, but will range from at least 10 minutes to one hour, or more.** (See chart to estimate time of circulation based on a 6" well)
 - a. *Well depth (foot) x 1.5 (gallons per foot) = Volume*
 - b. *Volume ÷ 5 (GPM or flow of water back into well) = Minutes*
 - c. *Minutes = time to circulate water*
6. Replace well cap.
7. In order to disinfect the house supply lines, turn on all inside and outside cold and hot water faucets, and run water until you detect a **STRONG** odor of bleach at all the faucets.
8. Turn off all the faucets, and allow the bleach to remain in contact with the well and the household plumbing overnight. **DO NOT DRINK OR BATH DURING THIS TIME**, you may flush a toilet but keep use to emergency use only.
9. Following contact lasting overnight or at least eight hours turn on all of the cold water faucets and begin flushing the bleach from the system until you no longer detect a chlorine odor at any of the taps. You may want to use any outside faucets first so as not to overload the septic system. This process may take several hours, and care should be taken not to run the well dry and thus damage the well pump. It may be best to pump the well for a few hours on the first day of flushing, and then again for a few hours on the following days(s). When flushing of the cold water lines is complete, run the hot water to flush the water heater.
10. It is **CRITICAL** that all chlorine be flushed from the system prior to collecting a sample. ESS will provide test packets at no charge to ensure that the chlorine has been removed.
11. Follow the direction for sample collection that is found on the accompanying sheet.

RECOMMENDED AMOUNTS OF CHLORINE FOR WELL DISINFECTION

A. Quantity of Household Liquid Bleach (5.25% Chlorine)

Well Depth (ft)	Well Diameter (inches)				
	6	8	10	24*	32*
--	1 Cup	2 Cups	1 Quart	1 Gallon	1.5 Gallons
20	2 Cups	1 Quart	2 Quarts	1 Gallon	1.5 Gallons
30	2 Cups	1 Quart	2 Quarts	1.5 Gallons	2 Gallons
40	1 Quart	2 Quarts	3 Quarts	2 Gallons	2.5 Gallons
60	1 Quart	2 Quarts	1 Gallon	2.5 Gallons	3 Gallons
80	2 Quarts	3 Quarts	1.25 Gallons	N/A	N/A
100	3 Quarts	1 Gallon	1.5 Gallons	N/A	N/A
150	1 Gallon	1.5 Gallons	2 Gallons	N/A	N/A
200	1.25 Gallons	1.5 Gallons	2 Gallons	N/A	N/A
300	1.5 Gallons	2 Gallons	2.5 Gallons	N/A	N/A
400					

B. Quantity of Sodium Hypochlorite (12.5% - 15% Chlorine)

Well Depth (ft)	Well Diameter (inches)				
	6	8	10	24*	32*
--	¼ Cup	½ Cup	1 Cup	1 Quart	1.5 Quarts
20	½ Cup	1 Cup	2 Cup	1 Quart	1.5 Quarts
30	½ Cup	1 Cup	2 Cup	1.5 Quarts	2 Quarts
40	1 Cup	2 Cup	3 Cup	2 Quarts	2.5 Quarts
60	1 Cup	2 Cup	1 Quart	2.5 Quarts	3 Quarts
80	2 Cup	3 Cup	1.25 Quarts	N/A	N/A
100	3 Cup	1 Quart	1.5 Quarts	N/A	N/A
150	1 Quart	1.5 Quarts	2 Quarts	N/A	N/A
200	1.25 Quarts	1.5 Quarts	2 Quarts	N/A	N/A
300	1.5 Quarts	2 Quarts	2.5 Quarts	N/A	N/A
400					

C. Quantity of Calcium Hypochlorite (70% Chlorine)

Well Depth (ft)	Well Diameter (inches)				
	6	8	10	24*	32*
--	3 Tblsp	4 Tblsp	6 Tblsp	12 oz	1 lb
20	4 Tblsp	6 Tblsp	3 oz	1 lb	1.5 lbs
30	6 Tblsp	8 Tblsp	4 oz	1.5 lbs	2 lbs
40	8 Tblsp	4 oz	6 oz	2 lbs	2.5 lbs
60	9 Tblsp	5 oz	8 oz	2.5 lbs	3 lbs
80	4 oz	6 oz	10 oz	N/A	N/A
100	6 oz	8 oz	12 oz	N/A	N/A
150	8 oz	10 oz	1 lb	N/A	N/A
200	12 oz	1 lb	1.5 lbs	N/A	N/A
300	1 lb	1.25 lbs	2 lbs	N/A	N/A
400					

* bored well

~ All calculations are approximate and are a starting point; you may need additional amounts for complete disinfection

Reference: modified from Bacteria and Other Microorganisms in Household Water,
Virginia Cooperative Extension Publication 356-487, Virginia Tech University reprinted 1999.