

## WATER WELL DISINFECTION PROCEDURES

New wells, pumping equipment, and water systems should always be disinfected before being placed in service. They should also be disinfected after being repaired or when a water sample report indicates that the water supply is potentially unsafe.

### The Disinfectant:

The most available and easiest to use disinfectant is liquid laundry bleach. This is a solution of sodium hypochlorite that contains approximately 5.25% available chlorine. The percentage will be noted on product labeling. This product may be obtained at grocery stores and many other retail stores under such trade names as Clorox, Purex etc. Bleach loses strength in its container over time. Check the “sell by date” and only use bleach that is less than three months old. Use unscented bleach to avoid adding unneeded chemicals to the water.

### How Much Disinfectant To Use:

The amount of disinfectant that is necessary for disinfecting a well is determined by the diameter of the well casing and the depth of water in the well. Too much chlorine in your well will result in a chlorine taste and odor in the water for several days after the treatment. Too little chlorine in your well will not completely disinfect the well and the water sample report could again read as “unsafe”. Use the following Table to determine the amount of disinfectant required for your well:

#### Quantity of disinfectant required

<u>Diameter of Well casing (in inches)</u>	<u>Fluid Ounces of disinfectant per ten feet of water depth</u>
2 inches.....	0.3
3 inches.....	0.6
4 inches.....	0.9
5 inches.....	1.4
6 inches.....	2.0
8 inches.....	3.4
10 inches.....	5.5
12 inches.....	8.0
16 inches.....	13.0
20 inches.....	24.0
24 inches.....	31.0

Measure your well casing (inside diameter) and find the amount of disinfectant to be used per ten feet of water depth. Divide the water depth of your well by 10 and multiply this

number by the ounces-per-ten-feet from the chart. This will give you the ounces of chlorine bleach needed to disinfect your well.

### **Preparing the Disinfecting Solution**

After finding the amount of disinfectant to use, you are ready to prepare the chlorine solution that will be placed in your well. The amount of disinfectant that you determined from the chart and formula is in fluid ounces. Most measuring cups used in the kitchen have a fluid ounce scale. Add the correct amount of disinfectant to five gallons of water in a clean container and mix well. Use this solution soon after mixing as it will weaken in a short time. DO NOT use metal containers because they are corroded by strong chlorine solutions. Crockery, glass or plastic containers are recommended.

**NOTE:** Do Not mix chlorine solutions with other cleaning products, including ammonia, because toxic gases will be created.

### **Disinfecting The Well:**

The chlorine solution you have prepared is added to the well by pouring it down the well casing. It may be necessary to remove the pump to do this. NOTE: Wear rubber gloves and safety glasses to protect skin and eyes from splashes. Spills contacting the body should be rinsed immediately and thoroughly with fresh water.) After the solution has been added and the pump, if removed, has been reconnected, turn the pump on and off two or three times to circulate the chlorine solution. Go into the house or business and turn on each cold water faucet until the odor of chlorine is detected. Then turn off the faucets. If you have difficulty smelling the chlorine odor, a chlorine residual testing kit can indicate whether or not there is chlorine in the water. If you do not have a chlorine residual testing kit immediately available, you may use a swimming pool chlorine test kit. NOTE: Do not use faucets that are near electrical or gas supply for heating or hot water tanks. LEAVE the chlorine-water mixture in the well & plumbing system for 12 to 24 hours before removing the chlorinated water. NOTE: During the disinfection process, the well water should not be used for consumption. At the end of the disinfection process, operate the pump by turning on each cold water faucet and allowing to run until no chlorine odor is detected. It is recommended that a water sample from the system be collected several days after the disinfection procedure. If the water sample report again indicates an unsafe water supply, repeat the procedure but double the amount of chlorine added to the well. Sample the water again several days after the second treatment. If the water sample report again indicates an unsafe water supply, contact your local county sanitarian.

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