

Well Disinfection Procedures for Public Water Systems

Summary:

If a well is found to contain coliform bacteria, it may be possible to eliminate the contamination by disinfecting the well. The goal is to disinfect the well so that coliform bacteria are eliminated. If the well is improperly constructed or located, contamination may not be eliminated or may be eliminated temporarily. In that case, you may need either a new well or an approved disinfection system. Please contact this office to discuss the problem creating the need to disinfect the well.

1. Pump the well to waste for at least 30 minutes. With pump not operating, pour the correct amount of liquid sodium hypochlorite into the well casing. The sodium hypochlorite you use must be ANSI/NSF* Standard 60 certified for potable drinking water. Most wells have a cap or plug that may be removed to pour the liquid into the casing.

<u>Well casing diameter</u>	<u>Amount of 12.5% available hypochlorite solution needed</u> (per 100 feet of well depth)
4 inches	One cup
6 inches	Two cups
8 inches	Three cups
12 inches	Eight cups (Half gallon)

Note: These quantities are for 100 feet of well depth. Adjust the quantities to fit the depth of your well. This table is for liquid hypochlorite with 12.5% available chlorine.

2. Do not operate the pump for 30 minutes after adding the hypochlorite. Then surge the well either by turning the pump on and off several times or by connecting a hose to the nearest hose bib and circulating the water into the well casing opening for several minutes.
3. (This step is to disinfect the distribution system if necessary). Start the pump and begin opening taps in the distribution system. Start with the tap closest to the well and let the water flow until a strong odor of chlorine is noted. Then, close the tap and continue procedure until you have detected the chlorinated water at all taps.
4. Allow this water to sit undisturbed in the well and distribution system for 24 hours if possible; or at least overnight. This water should not be used for drinking or bathing.
5. After the 24-hour period or overnight, open all taps (starting with the tap closest to the pump) and allow water to run to waste until no chlorine odor is detected.
6. After the chlorinated water is completely flushed from the well and distribution system, a sample must be collected and analyzed by a certified laboratory. If coliform bacteria are absent, the disinfection has probably been successful. A follow-up sample should be collected from the well after one week. Another follow-up sample should be collected after one month to verify that the water remains free of contamination.

*American National Standard Institute (ANSI) or National Sanitation Foundation (NSF)