

# DISINFECTING PRIVATE WELLS

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The National Ground Water Association recommends that private well owners have their water tested on an annual basis. A common water quality test will note the presence (or absence) of a group of bacteria called the coliform group. Members of the coliform group are found in the intestinal tract of warm-blooded animals as well as in soil. Coliform bacteria in a drinking water supply indicate that contamination may be present, and the water is not safe for human consumption. For private well owners, a solution to this problem is to shock chlorinate the well. Shock chlorination is a method of sanitizing a well with chlorine (most often household bleach). When a laboratory bacteriological analysis report shows the presence of coliform organisms, use the following procedure for well disinfection:

**FIRST-** Locate the wellhead and remove an access plug or bolt so that the area within the well casing is exposed.

**SECOND-** Pour in an appropriate amount of liquid household bleach or granular high-test hypochlorite. See chlorine dosage chart below. Remember, chlorine is a potentially dangerous material. Wear rubber gloves and eye protection when disinfecting the well. Never mix chlorine with other cleaning materials, particularly ammonia, because toxic gases will form. Do not use scented bleaches; use only the plain kind.

**THIRD-** Using the nearest faucet and a garden hose, allow water to run into the well for two or three hours. This will circulate the chlorinated well water and improve the germ-killing action by allowing all fittings and equipment in the well to be exposed to the chlorine solution.

**FOURTH-** After the well water has circulated for the appropriate time, remove the garden hose and replace the access plug.

**FIFTH-** To disinfect the remainder of the plumbing system, turn on the next available faucet and allow it to run until the bleach odor can be detected, then turn it off. Repeat this step throughout the plumbing system at each faucet connected to the well. Then, allow the chlorinated water to remain in the plumbing system for 12 to 24 hours. During this time, the water should not be used. To completely disinfect your system, it is also important to disinfect all water treatment equipment such as water softeners, iron filters, and sand filters. However, do not chlorinate carbon or charcoal filters; doing so will use up their capacity. Check manufacturer's literature before chlorinating any treatment units.

**SIXTH-** After the 12 to 24 hour shock chlorination, flush the system by letting each faucet run until the smell of chlorine disappears and the water is clear of any debris or color. Flush outside faucets first- you do not want to flood the septic system.

**SEVENTH-** Then, retest the well by submitting another bacteriological sample to determine if the disinfection process was successful.

Keep in mind that a single disinfection may not be sufficient because certain well systems, particularly shallow wells, hand-dug wells, wells in fissured areas and old wells, are more vulnerable to contamination. Water from these types of systems should be checked more frequently for contamination. Continuous disinfection equipment may be necessary for some of these water sources, especially when repeated samples show coliform contamination. Information about continuous disinfection equipment may be obtained from local well drillers and plumbing suppliers.

## Amount of Chlorine Needed for Shock Chlorination

### Laundry Bleach (about 5.25% Hypochlorite)

Depth of Water in Well	Well Casing Diameter				
	4-inch	6-inch	8-inch	10-inch	12-inch
10 feet	½ cup	1 cup	1 ½ cups	1 pint	2 pints
25 feet	1 cup	1 pint	2 pints	3 pints	4 ½ pints
50 feet	1 pint	1 quarts	2 quarts	3 quarts	1 gallon
100 feet	1 quart	2 quarts	1 gallon	1 ½ gallons	2 gallons
150 or more	3 pints	3 quarts	1 ½ gallons	2 gallons	3 gallons

### High-Test Hypochlorite (HTH 65-75% Hypochlorite)

Depth of Water in Well	Well Casing Diameter				
	4-inch	6-inch	8-inch	10-inch	12-inch
10 feet	-----	-----	-----	-----	-----
25 feet	-----	-----	-----	¼ lb	½ lb
50 feet	-----	-----	⅓ lb	½ lb	¾ lb
100 feet	-----	⅓ lb	¾ lb	1 lb	1 ½ lb
150 or more	¼ lb	½ lb	1 lb	1 ½ lb	4 lb

## For More Information:

### Tarrant County Public Health Laboratory

Call: 817-321-4778

Web site: [www.tarrantcounty.com/eHealth](http://www.tarrantcounty.com/eHealth)

### Water Systems Council

Wellcare Hotline: 1-888-395-1033

Web site: [www.watersystemscouncil.org](http://www.watersystemscouncil.org)

### U.S. Environmental Protection Agency

Private Drinking Water Well Web site:

[www.epa.gov/OGWDW/privatewells](http://www.epa.gov/OGWDW/privatewells)

### National Environmental Services Center

Call: 1-800-624-8301 ext. 5500

E-mail: [info@mail.nesc.wvu.edu](mailto:info@mail.nesc.wvu.edu)