

# NEILSON RESEARCH CORPORATION

## Environmental Testing Laboratory

### How to Chlorinate Your Well Using Household Bleach

Use these guidelines to chlorinate a domestic well after it fails a Total Coliform Bacteria test. It is an accepted practice to chlorinate your well before going to the expense of installing permanent treatment equipment. The process described below will achieve a very high concentration of chlorine, and will chemically sterilize the well and associated plumbing. If you are not familiar with all parts of your water system, contact your local pump company to perform the chlorination for you.

Until your water supply has been tested and is certified safe, boil all water for at least 10 minutes at a rolling boil before drinking or cooking with it.

#### **First, determine the quantity of household bleach you will need:**

You may use any brand of household bleach that is at least 5.5% Sodium Hypochlorite.

Use the following calculation to figure out how many gallons of water are in the entire plumbing system you are going to chlorinate.

1. Multiply the depth of your well (in feet) by 1.5 – this equals the number of gallons of water in your well.
2. Add the number of gallons in your pressure tank.
3. Add the number of gallons in your holding tank (if you have one).

#### **EXAMPLE:**

100 foot well x 1.5 = 150 gallons of water in well  
+ 40 gallons of water in the pressure tank  
+ 1500 gallons of water in the holding tank  
=1690 gallons total of water to treat

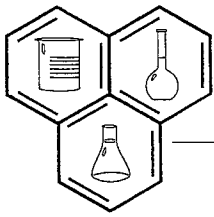
Determine the quantity of bleach necessary.

1. Divide the number of gallons in the system by 496. This will equal the number of *quarts* of bleach needed.
2. Divide *quarts* of bleach needed by 4. This will be the number of *gallons* needed to chlorinate your system.

#### **EXAMPLE:**

1690 gallons of water in the system ÷ 496 = 3.4 quarts of bleach needed  
3.4 quarts of bleach needed ÷ 4 = 0.85 gallons of bleach needed

This quantity of bleach will chlorinate the water to approximately 25 ppm. For comparison, chlorinated city water usually contains less than 1 ppm.



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### Second, add household bleach to your water system:

1. Disconnect all treatment equipment prior to performing the following procedure. This includes water softeners, filters, carbon traps, etc.
2. Unscrew the screened return bent vent on the sanitary seal of the well. Do not remove the 4 hexagon shaped bolts that hold the well seal together. If you do not have a screened return bent vent, call Neilson Research Corporation at 541-770-5678.
3. Attach a garden hose to the faucet nearest the well. You will need a small nozzle will to adapt the hose to the ½ inch opening in the sanitary seal.
4. Use a funnel to pour the predetermined amount of bleach into the well. If your system includes a holding tank of 500 gallons or more, put a proportionate amount of bleach into the holding tank.
5. Run water into the well using the hose nozzle. This will circulate bleach throughout the entire water column. Depending on the flow rate through the hose and the depth of your well, this may take 1/2 an hour to 3 hours or longer.
6. Remove the hose periodically and check for a strong chlorine odor in the hose water. Estimate 1 hour of running water for every 100 feet of well depth.
7. When you smell bleach in the garden hose, turn it off and remove it from the well.
8. Reinstall the screened return bent vent to the sanitary seal.
9. Turn on each hot and cold-water faucet in the house, one at a time, and run the water until you smell bleach. Then turn it off and do not use it.
10. Allow chlorine to sit in the entire system overnight without any usage.

**CAUTION:** Do not use this water for any purpose. This includes drinking, cooking, bathing, washing clothes or cars, watering livestock or irrigating landscape.

### Third, flush the system:

1. Attach a garden hose to an outside faucet and turn it on about halfway. Do not let this bleach water run it into the septic system or onto landscaped areas. Run the hose for about 2 hours then turn it off for an hour.
2. Continue this alternating procedure until you cannot smell chlorine coming out of the hose. This will flush the well.
3. Now flush the water lines in the house. Turn on one faucet at a time and run water until you don't smell chlorine. This water *will* run down the drain into the septic system, but the amount of chlorine in the lines will not do any harm.
4. Chlorination is complete! Use lots of water for 5 to 7 days.
5. Boil water for cooking and drinking until Total Coliform Bacteria test is passed.
6. After *all traces* of chlorine are gone, wait at least 5 days to repeat Total Coliform Bacteria test.
7. Once your water is free of contamination, continue to retest every six months to assure that your system is still free of coliform bacteria.

Neilson Research Corporation scientists can also test your water for toxic heavy metals and trace minerals. If you have a problem with water spotting, staining of fixtures, metallic taste, or build-up of soap scum around the sinks and bathtubs, talk with any of our personnel regarding what analyses might be indicated for your water. Neilson Research Corporation staff can also test for toxic organic chemicals, herbicides, and pesticides.

We are here to provide quality laboratory analyses at the lowest possible prices. We are open from 8:30 to 5:00, Monday through Friday to serve you.