CARROLL COUNTY HEALTH DEPARTMENT
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DISINFECTION FACT SHEET FOR DRINKING WATER WELLS
SIMPLE PROCEDURES FOR HOMEOWNERS

BY-PASS ALL WATER TREATMENT UNITS DURING THE CLORINATION PROCESS. LEAVE ALL WATER TREATMENT UNITS BY-PASSED UNTIL THE WATER SAMPLE IS TAKEN.

The following well disinfection procedures may be carried out by homeowners on an existing well. Disinfection is performed after the well is sampled and found to be total coliform or e-coli positive, or when the presence of non-pathogenic bacteria such as slime formers or iron bacteria have been identified. A total coliform bacteria sample is used as an indicator of unsanitary conditions. If total coliform or e-coli positive samples persist after disinfection, then an experienced registered private water systems contractor should be contacted to professionally disinfect your well using superchlorination methods and the construction of the well should be evaluated.

If the total volume of water stored in the well casing is unknown then add two gallons of fresh 5.25% unscented laundry bleach, also called sodium hypochlorite and 2 quarts of vinegar to five gallons of water. Mix the solution in a new clean garbage can, or clean a garbage can and line it with a new plastic garbage bag. Laundry bleach loses its' effectiveness the longer it sits on the shelf in the store or in your home. Solid chlorine pellets, which are 65% to 70% calcium hypochlorite, should be dissolved in a five gallon bucket of water. Be aware that some solid chlorine products used for swimming pools may have additional chemicals, such as algaecides, in them and should not be used for well disinfection. Place the can next to the well to pour the solution or siphon the chlorine solution from the can to the well.

<u>Add the chlorine solution</u>

Remove the cap from the well. Pour the chlorine and vinegar solution directly into the well.

Re-circulate.

With a garden hose, re-circulate this solution back into the well washing down the sides of the casing for approximately ten minutes. Debris may begin to slough off the side of the casing, and iron or manganese in the water may begin to turn solid as the chlorine reacts with the minerals.

Turn on all faucets connected from the well throughout the house and outside the house, including the hot water faucets. Make sure to turn on faucets that rarely or never get used, especially yard hydrants and outside spigots. Remember to run water into the washing machine and flush all toilets. Run the water until the chlorine smell is detected. By-pass all water treatment units during the chlorination process to avoid damage to the resin bed. The resin bed of the water softener can provide a place for bacteria to grow, and must be chlorinated at lower concentrations. The water softener should be disinfected separately using ¼ to ½ cup of chlorine bleach placed into the small tube in the large brine tank followed by a manual recharge. Remove and discard any carbon filters or cartridge filter elements and thoroughly clean the inside of the filter housing.

Maintain sufficient contact time

Once the odor of chlorine is detected in all water lines, shut off the faucets and let the water sit in the plumbing for at least 24 hours.

Flush the chlorine from the water system.

After 24 hours have elapsed, run the water to the surface of the ground until the entire odor of chlorine is gone. This will take a while depending on the volume of the well and the plumbing. Do not run the water into your septic system as this will cause the system to become overloaded.

Retest the Well for Total Coliform.

We do water testing on Tuesday and Wednesday. Call the week before you chlorinate your well to schedule for the following weeks testing. Make sure that the water is checked for chlorine before collecting the water sample. If there is any indication of chlorine in the water, the sample should not be collected. This helps avoid getting an indication of a safe sample that may e due to only to the continuing activity of leftover chlorine and may not reflect the true condition of the water. Do not replace carbon filters or filter elements until a total coliform negative sample has been achieved.

What if the well tests positive for total coliform after disinfection?

There are many instances where the previously described disinfection procedures may not work in making water well bacteria free. In some cases the pH of the water may need further adjustment in order to get the optimum disinfection from the added chlorine, or superchlorination procedures may be required. The well casing may also need a thorough scrubbing or cleaning to remove non-pathogenic slime forming or iron bacteria that can build up on the well casing and borehole walls. Removal of this type of bacteria often requires the use of specially formulated well cleaning products and drilling equipment and is best performed by a registered contractor. If total coliform or e-coli bacteria persist in water samples then contact an experienced registered private water systems contractor to professionally disinfect your well. Contact your local health district when you experience any problems with you well or for assistance.

The Ohio Department of Health registers and bonds private water systems contractors. Please contact your local health district or check: http://www.odh.state.oh.us/ODHPrograms/WATER/water1.htm for the most current list of registered contractors.