Disinfection of Water Wells

Water wells may require disinfection after repairs or modification to the water well, after plumbing work is completed in a structure, after loss of water pressure, extended inactivity, and/or if a bacteriologically unsatisfactory water sample is confirmed.

The Department recommends that well owners work with a qualified water well professional if their water well requires disinfection, particularly for disinfection of driven point wells or water wells that are located within well pits. However, well owners can disinfect their own drilled water well.

Safety Considerations Prior to Disinfection:

- Keep children and animals away from the well while disinfecting.
- No one should use the water until the disinfection procedure is completed.
- Use extreme caution when working with electricity or around electrical components.
- When using chemicals, always follow the manufacturer's label directions.
- Avoid eye and skin contact. Wear protective eyewear and rubber gloves.
- Do not mix bleach with other chemicals. Harmful gases can be formed.
- Do not leave bleach or the bleach solution unattended.

The area around the well must be well ventilated, because disinfection can cause harmful gases. Wells in well pits should be disinfected by licensed water well contractors.

Disinfection Process:

Remove the well cap.

1. Determine the amount of water in the well utilizing the chart below:

Interior Diameter of Water Well in Inches	Gallons Per Feet
3	.37
4	.65
5	1.0
6	1.5
8	2.6

2. Multiply the gallons per foot by the number of feet of water in the well.
3. **For each 100 gallons of water in the well,** use the amount of chlorine liquid as follows:

Laundry Bleach (5.25% Chlorine)
3 cups per 100 gallons

1 cup = 8 oz. measuring cup;
2 cups = 1 pint; 4 cups = 1 quart

4. Mix the correct amount of chlorine liquid in about 10 gallons of water.
5. Pour the chlorine solution into the top of the well.
6. Connect a hose to an outside spigot (on the discharge side of the pressure tank) and recirculate water back into the well for approximately 15 minutes.
7. Open each hot and cold faucet in the system until a chlorine odor is detected. Close the faucets. Remove the hose and secure the well cap on the water well.
8. Let the system stand for at least several hours, but preferably overnight.

After standing, run each faucet until the chlorine odor disappears. If the structure is served by a private sewage disposal system, the water flow should be throttled to a low flow to prevent overloading the septic system. Outside spigots may be run with the discharge directed away from the private sewage disposal system, to reduce the chlorine level. Well owners should consider the impact that the discharge may have on plants, the lawn, surface bodies of water, etc. Be sure the discharge does not cause ponding or pooling or other nuisance conditions.

Filtration and Treatment Devices:

- Some filtration and treatment devices may remove or reduce the chlorine level downstream of the device, which will reduce its effectiveness.
- Bypassing treatment devices during disinfection may cause reintroduction of bacteria into the system after disinfection if the device is not properly disinfected.
- Follow manufacturer's recommendations for maintaining, cleaning and sanitizing filtration and treatment devices.

Be sure to let laboratory staff know the well has been disinfected, when submitting a follow-up water sample. Staff will confirm that there is no chlorine residual in the water. A positive chlorine residual test could invalidate a bacteriological analysis of the water.

Questions regarding disinfection of water wells can be directed to the Division of Environmental Health

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