

Water Well Disinfection Info Sheet

Newly constructed, repaired, flooded, submerged or seasonal wells and wells which have tested positive for coliform bacteria need to be disinfected. Water from such wells should not be used for drinking until proven safe by laboratory testing.

The water well and household water pipes may be disinfected using the following simple method.

1. Bypass or remove all water treatment devices before starting
2. Run the faucet until the water is clear, if it doesn't clear call the Health Dept.
3. Measure the inside diameter of the well casing and use the table below to determine the total amount of household bleach needed.

Well Casing ID	Depth of Well	Bleach Required
1 1/4 Inch	50 feet	1/2 Cup
2 Inch	50 feet	1 1/3 Cups
3 Inch	50 feet	3 Cups
4 Inch	50 feet	1 1/3 Quarts
5 Inch	50 feet	1/2 Gallon
6 Inch	50 feet	3/4 Gallon

If the well is less than 50 feet deep, use the amount indicated, but for deeper wells use additional amounts of bleach in proportion to the increased depth. For example a 100 foot deep well with a 6 inch casing would require a total of 1 1/2 gallons of bleach.

Use only unscented common household bleach (active ingredient 5.25% sodium hypochlorite), scented bleach, pool chemicals, and other bleach products may be toxic.

4. Shut the power to the pump off to avoid any possible electrical shock and remove the well cap.
5. Add the total bleach required to 5 gallons of water in a clean bucket and slowly pour the bleach mixture into the well.
6. Connect a garden hose to an outside faucet and position the hose inside of the well casing, turn the pump on and flush the casing for 10 to 15 minutes. Bleach odor should be detectable
7. Open all cold water faucets in the home starting closest to the well, allow water to run until you smell bleach and then turn off the faucet.
8. Open all hot water faucets one at a time, starting closest to the hot water tank, allow the water to run until you smell bleach and then turn off the faucet.
9. Do not run any water for at least 4 hours, however overnight is recommended.
10. To remove the bleach attach a garden hose to an outside faucet and run the water onto the ground until you can no longer detect bleach. Do not run the water into your septic system as this may overload the system, use caution when discharging to the ground as the bleach concentration will likely kill plants and grasses. Open all faucets when the bleach odor is gone to flush the homes internal plumbing.
11. Once you are convinced there is no longer bleach in the system you may collect a sample for bacteria testing, bottles are available at the MDCH lab and at the Health Dept.
12. Collect the sample from a suitable tap as close to the well as possible, do not test treated water.
13. Do not forget to reverse bypasses or reconnect treatment devices after disinfection and sampling
14. Failure to obtain a safe sample after disinfection should be discussed with the Health Dept. or a Licensed Well Driller.

Disinfecting Small Volumes of Water

When faced with the prospect of preparing and disinfecting small volumes of drinking water individuals must be very careful in the source of the water. Extreme care must be taken to choose water that has not been contaminated with sewage or chemicals.

Sources of water found in and around the home may include:

- Toilet Tanks
- Hot Water Heaters
- Questionable Municipal Supplies
- Streams
- Lakes
- Partially Full Well Pressure Tanks

The purpose of disinfection is to destroy harmful organisms the extent of disinfection provided by the following methods is only useful for small volumes of relatively clean water.

Boiling:

Boiling is the safest method of disinfection. Filter as much turbidity from water as possible by passing through paper towel, coffee filters, or clean towels. Boil water at a vigorous rolling boil for at least two minutes. To improve taste allow the water to cool and pour the water from one clean container to another several times to aerate.

Bleach Disinfection:

Water can be disinfected using standard liquid unscented household bleach (5.25% sodium hypochlorite). Scented varieties, pool chemicals, or any other "bleach" product other than the mentioned standard should not be used as they are likely toxic.

Add bleach in accordance with the table below adapted from the California Conference of Directors of Environmental Health Disaster Field Manual.

Emergency Disinfection Table		
Amount of Water	Clear Water	Cloudy Water
1 Quart	2 Drops of Bleach	4 Drops of Bleach
1 Gallon	8 Drops of Bleach	16 Drops of Bleach

Following bleach addition the water should be agitated and allowed to set for 30 minutes, a faint bleach odor should be detectable following disinfection.

When preparing safe water plan on a minimum of 2 gallons per person per day for drinking, cooking, and personal hygiene. Do not use contaminated water for food