

Shock Chlorination Procedure

Shock Chlorination is the procedure for cleaning and sanitizing a well or spring with chlorine. Concentrations of chlorine used in shock chlorination are 100 to 400 times the amount of chlorine found in “city water.” The highly chlorinated water is held in the pipes for 12 to 24 hours before it is flushed out and the system is ready for use.

Periodic shock chlorination may also be effective to reduce an **iron bacteria** problem.

For wells, the amount of chlorine needed to shock chlorinate a water system is determined by the amount of water standing in the well. Table 1 lists the amount of chlorine laundry bleach or powdered high-test hypochlorite (HTH) needed for wells. If in doubt, it is better to use more chlorine than less.

Table 1
Amount of chlorine needed for shock chlorination

Laundry bleach (about 5.25% Hypochlorite)

Depth of Water in well	Casing Diameter				
	4 inch	6 inch	8 inch	10 inch	12 inch
10 feet	1/2 cup	1 cup	1 1/2 cup	1 pint	2 pints
25	1 cup	1 pint	2 pints	3 pints	4 1/2 gallons
50	1 pint	1 quart	2 quarts	3 quarts	1 gallon
100	1 quart	2 quarts	1 gallon	1 1/2 gallon	2 gallons
150	3 pints	3 quarts	1 1/2 gallon	2 gallons	3 gallons

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

Depth of Water in well	Casing Diameter				
	4 inch	6 inch	8 inch	10 inch	12 inch
10 feet	--	--	--	--	--
25	--	--	--	1/4 lb.	1/2 lb.
50	--	--	1/3 lb.	1/2 lb.	3/4 lb.
100	--	1/3 lb.	3/4 lb.	1 lb.	1 1/2 lb.
150	1/4 lb.	1/2 lb.	1 lb.	1 1/2 lb.	2 lbs.

To Shock Chlorinate a Well:

1. Pour the proper amount of chlorine bleach or powdered chlorine dissolved in a small amount of water directly into the well.
2. Connect a garden hose to a nearby faucet and wash down the inside of the well.
3. Re-circulate the chlorinated water into the well for a minimum of one (1) hour (2 to 3 hours is preferable).
4. Open each faucet one by one and let water run until a strong odor of chlorine is detected. If a strong odor is not detected, add more chlorine to the well.
Note: Bypass all installed water treatment equipment.
5. Let the water stand in the water system for at least 12 to 24 hours.
6. Flush the system of remaining chlorine. Start by turning on outside faucets and letting them run until the chlorine smell dissipates. Let the water run on the ground to reduce the load on your septic system. Finally, run the indoor faucets until the system is completely flushed.

Shocking chlorination of a spring is more difficult. If possible, divert spring water away from the spring box. Mix about 1/2 cup of household bleach in 5 gallons of water and scrub the walls of the spring box or holding tank or both. Return the flow of spring water back into the spring box and let the fresh water carry the chlorine through the pipeline to disinfect the plumbing.

Most water treatment equipment, such as water softeners and iron filters, should be bypassed. Check the manufacturer's literature before chlorinating treatment equipment and pressure tank to prevent damage from strong chlorine solutions. **Do not** chlorinate carbon or charcoal filters; doing so will use up their capacity. Rebedding of these type fixtures will be required.

Be Careful when handling concentrated chlorine solutions. Wear rubber gloves, goggles and protective apron. If chlorine accidentally gets on your skin, flush immediately with clean water.

Never mix chlorine solutions with other cleaning agents or ammonia, because toxic gases are formed.

Do not use "fresh scent" bleach or other special laundry products to disinfect wells. Use the plain and usually least expensive laundry bleach.

Retest your water supply for bacteria after waiting 1 to 2 weeks. If shock chlorination does not eliminate a bacteria problem, continuous disinfection may be necessary.

Ref: OCES Ohio Cooperative Extension Service