

# Disinfection of a Contaminated Drinking Water System

Chlorine is used for disinfecting contaminated drinking water supplies and is most easily obtained in the form of liquid chlorine (sodium hypochlorite 10-12%) from a pool supply store. Liquid bleach (e.g., Clorox) has additives such as fragrances, emulsifiers, whitening agents, and is not recommended as a disinfectant. **State Small Water Systems (those with 5-14 connections) are required to use only chemical chlorine without additives.** See Chlorine Suppliers List



## WATER STORAGE TANK/SPRING BOX

### Mixing Chlorine into the Water Storage Tank:

TANK SIZE	LIQUID CHLORINE (5.0PPM)
2,500 Gallons	0.40 Quarts
5,000 Gallons	0.80 Quarts
10,000 Gallons	1.60 Quarts
20,000 Gallons	3.20 Quarts
30,000 Gallons	4.80 Quarts
50,000 Gallons	8.00 Quarts

1. Empty the tank part way down, then add liquid chlorine and fill the tank with fresh water or premix the liquid chlorine in a 5-gallon container and add to the tank.
2. Turn on all the faucets inside and outside of the house until a chlorine odor is detected.
3. Turn faucets off and allow the chlorine disinfectant to sit overnight in the system.
4. Next day, eliminate the chlorine disinfectant from the system by opening up all the outside faucets and draining until the chlorine odor is at an acceptable level.
5. Take a bacteriological sample to a certified private laboratory for analysis.
6. If the test results for total coliform indicate unsafe conditions, then repeat disinfection procedure.

*Volume of Rectangular Tank:* Length x Width x Depth of Water = Cubic Feet

*Volume of Cylindrical Tank:* Radius squared x 3.14 x Depth of Water = Cubic Feet x 7.5 = gallons

## WELL

- ✓ Use only a freshly opened bottle of liquid chlorine — the solution weakens with exposure to air.
- ✓ It is advisable to premix the liquid chlorine into a 5-gallon container prior to pouring the disinfectant into the well.
  - The recommended dosage for a 5.0 ppm-chlorine residual is 1 cup of 10% liquid chlorine for a standard well.*
  - ✓ Mix thoroughly after adding the chlorine solution.
  - If the well is deep, turn the pump on and off to surge the well.*
- ✓ Allow the system to rest overnight or for 24 hours.
- ✓ To reduce excess chlorine, pump the well several times then turn on all the outside faucets until the chlorine odor is at an acceptable level.
- ✓ Take a bacteriological sample into a certified private laboratory for analysis.
  - If the test results for total coliform indicate unsafe conditions then repeat disinfection procedure.*

**REMEMBER!** A successful disinfection requires the proper chemical dosage, mixing and contact time.

**Questions? Please call the Department of Environmental Health at 408-918-3400.**