

Disaster Preparedness for Safe Drinking Water



Chlorine is commonly used for disinfecting contaminated water supplies and is most easily obtained in the form of liquid chlorine (sodium hypochlorite 10-12%) from a pool supply store. Household bleach *without additives*, such as, fragrances, emulsifiers, and whitening agents is also acceptable for use.

HOW TO PURIFY WATER

AMOUNT OF WATER	CLEAR WATER	CLOUDY WATER
1 Quart	1 drop	2 drops
1 Gallon	4 drops	8 drops
5 Gallons	1/4 teaspoon	1/2 teaspoon
50 Gallons	1 1/2 teaspoon	1 tablespoon
100 Gallons	1 tablespoon	1 ounce
500 Gallons	1 ounce	2 ounces
1,000 Gallons	2 ounces (1/4 cup)	4 ounces
5,000 Gallons	8 ounces (1 cup)	16 ounces
10,000 Gallons	16 ounces (1/2 quart)	30 ounces

Boiling:

Boil the water vigorously for *one minute*. To improve taste, pour from one container to another several times to aerate. **CAUTION! Do not boil water if high nitrates are present in the water.**

Purification Tablets:

Available at most drug and camping stores. Follow directions on the package.

Liquid Chlorine Purification:

Liquid pool chlorine (*sodium hypochlorite-10-12%*) can be used. Add according to the table on left. If using household bleach then **double** the amount. Mix thoroughly and let stand for 30 minutes.

DISINFECTING WATER SYSTEMS

TANK SIZE	LIQUID CHLORINE (50PPM)
2,500 Gallons	1.25 Gallons
5,000 Gallons	2.50 Gallons
10,000 Gallons	5.00 Gallons
20,000 Gallons	10.00 Gallons
30,000 Gallons	15.00 Gallons
50,000 Gallons	25.00 Gallons

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

NOTE: After disinfection and **prior** to consumption of drinking water, it is recommended you take a water sample to a certified private laboratory for bacteriological analysis. If the test results indicate the presence of **total coliform**, then repeat disinfection procedure and retest.

Mixing Chlorine Into The Water Storage Tank:

1. Empty the tank part way down and 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 reduce the chlorine disinfectant from the system by opening up the outside faucets and draining until the chlorine odor is acceptable.

Mixing Chlorine Into The Well:

1. 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 50-100ppm-chlorine residual is half (1/2) gallon of 10% liquid chlorine for a standard well.
2. Mix thoroughly after adding the chlorine solution. If the well is deep, turn the pump on and off to surge the pump.
3. Allow the system to rest overnight or for 24 hours.
4. To remove excess chlorine, pump the well several times then turn on all the outside faucets until the chlorine odor is at an acceptable level.

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.