

# DISINFECTING WATER

When cleaning up after a flood, hand washing is the single most important thing you can do to protect your health and the health of other members of your household. For this you will need safe water.

## DRINKING WATER

All water possibly contaminated by flooding must be disinfected, whether from wells, springs, or cisterns. If available, bottled water which has not been in contact with flood water may be used during cleanup. Flooding often disables power or gas service along with other utilities, making it difficult to sanitize flooded wells and restore refrigeration. In such cases, bottled water may be the best choice for household water until utilities are restored. You may use your own bottles and fill them at a source known to be safe.

Other drinking water should be treated by one of the 2 methods given below. Note: if the water is excessively turbid (cloudy or colored), it may be difficult to sanitize it without boiling.

1. Boil water for five minutes and store in a clean container. The flat taste can be eliminated by shaking the water in a bottle or pouring it from one container to another.
2. Mix 5 drops of household bleach with 1 quart of water (or 20 drops per gallon) and let stand for at least five minutes (preferably 30 minutes to an hour) or longer before drinking. Bleach should be unscented and free of detergents or additives. This water will be suitable for drinking, hand washing, and for washing pots and utensils. An insulated beverage container with a bottom spigot is useful for storing a small supply of drinking and culinary water.

Public service announcements may indicate a source of water provided for the public as a part of the disaster response plan. Disaster response agencies may make interim bottled or tanked water available to the public. This may allow you time to sanitize and renovate your household water supply.

## DISINFECTING HOME WELLS

Once floodwaters have receded and power has been restored, wells, springs or cisterns should be adequately protected against all known sources of contamination before disinfecting the supply. Guidance for disinfecting various sizes and depths of wells are given on page 4, Table 1.

To disinfect most wells, mix two quarts of liquid household bleach with ten gallons of water and pour the contents down the well (inside the casing). If available, run a hose to the well and run water down the inside of the well casing, being sure to wet all of the interior well casing, for fifteen minutes. This will cause the chlorine to mix with the water in the well and will also allow you to disinfect all of the well casing.

Replace well cover and turn on all water taps, starting with those farthest from the well and moving towards the well, until there is an odor of chlorine. Turn off the water and do not use it for eight hours. Then open all taps and spigots and flush out the chlorine. Keep flushing until the chlorine odor has disappeared. Do not flush chlorinated water into perennial streams or lakes.

It is not advised to use your septic system for flushing chlorine water, but if you must, adjust the flow of faucets or fixtures that discharge into septic systems to a very low rate of flow to avoid overloading the system.



**TABLE 1** *Disinfecting Household Wells (Using 5.25% household bleach)*

Household bleach (5.25 to 6%) should be mixed with water before adding to the well casing at the rate of 1 cup or less per 5 gallons of clear water; 2 cups to 1 quart in 10 gallons of clear water; and 2 or more quarts of bleach in 20 gallons of water. Then follow the steps given above.

Note: Depth of water in well is measured from the static water level to the bottom of the well.

DEPTH OF WATER IN WELL (ft)	DIAMETER OF WELL (INCHES)					
	4" CASING	6" CASING	8" CASING	24" DUG WELL	36" DUG WELL	48" DUG WELL
5 FEET	1 cup	1 cup	1 1/2 cups	4 cups	3 quarts	5 quarts
10	1 cup	1 cup	1 1/2 cups	3 quarts	6 quarts	2 1/2 gallons
15	1 cup	1 cup	1 1/2 cups	4 quarts	2 gallons	4 gallons
20	1 cup	1 cup	2 cups	5 quarts	-	-
30	1 cup	2 cups	4 cups	-	-	-
40	1 1/2 cup	2 cups	1 quart	-	-	-
60	2 cups	4 cups	2 quarts	-	-	-
80	2 cups	1 quart	2 quarts	-	-	-
100	3 cups	1 1/2 quarts	2 1/2 quarts	-	-	-
150	4 cups	2 1/2 quarts	4 quarts	-	-	-

**TABLE 1A** *Disinfectant Solutions Summary: (Household bleach 5.25% -- 6% sodium hypochlorite)*

The effectiveness of disinfection can be checked after completing the above process by submitting a water sample to a laboratory to be analyzed for the presence of coliform bacteria. The sample should be collected in a container supplied by a certified laboratory and taken in accordance with laboratory sampling instructions.

Samples should be collected only after the chlorine has been out of the system for at least 72 hours.

Sampling bottles and instructions can be obtained from the DPHHS Environmental Laboratory, 444-2642. Bottles and instructions can be mailed upon request.

<b>Sanitizing Drinking or Culinary Water, Hand Washing Water, and Utensils</b>	5 drops of household bleach with 1 quart of water (20 drops per gallon)
<b>For Salvaging Cans, Cleaning Flooded Walls, Surfaces, Counters, Floors, and Toys</b>	1 cup of bleach with 5 gallons of water (2 – 3 tablespoons per quart)
<i>*Use protective gloves &amp; glasses and rinse this solution from metal surfaces after 10 minutes to prevent corrosion.</i>	
<b>For Disinfecting Flooded Wells, Plumbing, and Storage Tanks</b>	2 quarts of bleach with 10 gallons of water (see Table 1 above)
<i>*Use safety glasses, protective gloves, and clothing. Avoid direct skin or contact with these solutions.</i>	