



Emergency Disinfection of Drinking Water

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In 1999, large areas of New Jersey experienced severe flooding due to Hurricane Floyd. After flooding of this magnitude, of in the event of other disasters, it is possible that water supplies may be temporarily cut off or become contaminated with bacteria. When traveling or camping, you may have to use water from an unsanitary supply for drinking. It is important to know how to locate and purify water to make it safe to drink.

If water supplies are cut off, there are a number of temporary water supplies within your home. Melt ice cubes for an immediate source of clean water. If you hear of broken water or sewer lines in your area, shut off the incoming water valve to prevent contaminated water from entering your home. You can then use water in the tank (not the bowl) of your toilet and your hot water heater. To use water in your water heater, turn off the power and intake valve of the heater. Dispense water directly from the tank. Water from garden hoses and rainwater can also be used after it is disinfected.

However, if water supplies are not cut off but you are under a “boil water” advisory, do not use any of the water sources previously mentioned. Throw away uncooked food and beverages, like powdered drinks, juices made from concentrates, and ice cubes, if made with tap water during the day the advisory started.

If you are unsure of the quality of your drinking water, there are two general methods for treating bacterial contaminants, boiling and chemical treatment. Prior to treatment, consider the physical condition of the water. The more cloudy or murky the water, the more treatment

is needed. If the water is murky or colored, filter the water through multiple layers of a fine mesh cloth or multiple layers of paper coffee filters or let any solids settle before treatment.

Boiling

Vigorous boiling for 1 minute will kill microorganisms, like disease-causing bacteria, viruses, and giardia cysts. If your water has a flat taste after boiling, you can pour it from one container to another (aeration), let it stand a few hours, or add a pinch of salt to improve flavor.

Chemical Treatment

1. Chlorine

Common household bleach can be used to disinfect water. Make sure hypochlorite is listed as the only active ingredient in the bleach and that it contains no soaps or fragrances. Follow these guidelines:

Available Chlorine in Bleach (%) *	drops per quart	drops per gallon
1	10	40
4 – 6	2	8
7 - 10	1	4

* Common household bleach contains 5.25%



available chlorine. If the amount of chlorine in the bleach is unknown, add 10 drops per quart or 40 drops per gallon.

Double all amounts for cloudy or murky water.

After the chlorine is added, mix the water thoroughly and let it stand for 30 minutes. The water should have a slight chlorine smell; if not, repeat dosage and let stand another 15 minutes. If the water has a strong chlorine taste, let the water stand for a few hours.

Chlorine tablets purchased at outdoor stores and sporting goods stores can be used to disinfect water. Follow the package directions.

2. Iodine

A 2% tincture of iodine, commonly found in first aid kits, can be used to disinfect water. Use these measurements:

Volume of Water	Number of drops of tincture of iodine	
	Clean water	Cloudy water
One quart	5	10
One gallon	20	40

Add the iodine and let water stand for 30 minutes.

Iodine tablets purchased at outdoor stores and sporting goods stores can also be used to disinfect water. Follow the package directions.

If you cannot locate a dropper, use these measurements for the chlorine and iodine:

5 drops	1/3 of 1/8 teaspoon
10 drops	2/3 of 1/8 teaspoon
20 drops	2/3 of 1/4 teaspoon
40 drops	1/4 teaspoon plus 1/3 of 1/4 teaspoon

These disinfection techniques should be followed for all water used for drinking (for pets' water as well), cooking, making ice, prepared drinks, brushing teeth, and washing hands.

For more information on emergency preparedness, visit the following Web sites:

- Federal Emergency Management Agency's (FEMA) website at www.fema.gov.
- Centers for Disease Control and Prevention's National Center for Environmental Health at www.cdc.gov/nceh/emergency/flood.html.