# Appendix B: Disinfecting Water with Calcium Hypochlorite (Pool Shock)

The downside of regular bleach (sodium hypochlorite) as a water disinfectant is that it weakens over time and therefore has a shelf life of under a year. If you are storing gallon jugs of bleach for emergency preparedness thinking that you are well prepared to disinfect water for months or years to come, the reality is that your bleach will be good for protecting water for about six months.

Chlorine compounds are excellent disinfectants for water and there is an alternative chlorine compound that is in powdered form that will last on your shelf for years and is safe for disinfecting water. That compound is calcium hypochlorite and those of you with backyard pools already are familiar with its use. It is pool shock.

The Environmental Protection Agency provides the following information about this chemical (<https://www.epa.gov/ground-water-and-drinking-water/ememergency-disinfection-drinking-water>):

* Granular calcium hypochlorite. The first step is to make a chlorine solution that you will use to disinfect your water. For your safety, do it in a ventilated area and wear eye protection. Add one heaping teaspoon (approximately ¼ ounce) of high-test granular calcium hypochlorite (HTH) to two gallons of water and stir until the particles have dissolved. The mixture will produce a chlorine solution of approximately 500 milligrams per liter. To disinfect water, add one part of the chlorine solution to each 100 parts of water you are treating. This is about the same as adding 1 pint (16 ounces) of the chlorine solution to 12.5 gallons of water. If the chlorine taste is too strong, pour the water from one clean container to another and let it stand for a few hours before use. CAUTION: HTH is a very powerful oxidant. Follow the instructions on the label for safe handling and storage of this chemical.

Let’s translate this information into more friendly terms that will help us know how to use this product to disinfect water. First, high-test granular calcium hypochlorite (HTH) can be purchased online or in establishments that carry chemicals for disinfecting swimming pools. But be careful. Many of those chemicals also contain other additives such as algae killing compounds that you will not want in your water. Here is what to look for on the label:

1. It is in powder form.