

Safe Water International Ministries

P.O. Box 543
Oskaloosa, IA 52577



Instructions for the CPU

The CPU (Chlorine Producing Unit) is a simple device with no moving parts and nothing to wear out. Connect it to any 12 volt power source and pour a saltwater brine through it to produce a chlorine solution similar to bleach. This solution can then be safely used to disinfect small or large quantities of water. There are no harmful by-products except for the gas produced during the process that you should avoid breathing.

Mix about ¼ cup of salt in a 16 ounce bottle (60ml salt to 500ml water). For startup we include a small measuring cup and plastic bottle you can use that are the correct size. After a vigorous shaking to mix it well, pour the solution through the CPU into another bottle of the same size while it's connected to a 12 volt battery or battery charger of at least 12 amps. It only takes a few seconds to run through. Repeat the process. We have found that after 5 passes through, it is about as strong as it can get. In other words, all the salt is used up and converted to chlorine. During the process, it's normal for the solution to bubble, put out an odor, and warm up. In fact, if this doesn't happen, something is not connected properly. When finished, disconnect the battery wires and then pour a bottle of clean water through the CPU to wash it out, making sure the battery connections are out of the way. They will be corroded by any chlorine contact.

The solution you have produced will then be used to disinfect the water. About 10 drops of the solution added to a liter of water will kill the bacteria and make it safe to drink after it sits for an hour. It needs to sit for 2 reasons: first to give it time to kill all the bacteria, and secondly to let some of the chlorine dissipate so that the smell and taste is not noticed. If you are treating larger containers or tanks of water it is recommended that you use a simple chlorine pool tester (provided with instructions in CPU kit) to make

sure you are adding a correct amount of chlorine. One drop of indicator added to a water sample in the left test tube should turn a strong yellow color. A strength of approximately 3 ppm is desirable. After an hour of sit time, that number may be almost nil. The test is only to be used immediately after the solution is added to the drinking water. The test is not necessary every time, only to help you find the correct formula in a new situation. (Normally a liter of solution in a 1500 gallon or 5500 liter tank is a close starting point.)

If you are using a solar panel to recharge the battery, it should be connected for 3-6 hours after every use to be certain the battery is always fully charged. The panel needs to be mounted in a safe place in full sun, with the battery in the shade. Always keep the CPU in its protective box when not in use and keep the chlorine away from children, eyes, and skin. The chlorine solution should be processed and used within a week, as it gets weaker if it is stored for long periods of time.

The CPU is designed only for use in Third World Countries to help the poor and needy have safe water to drink. Always take care in using as you are producing a dangerous and caustic chemical about half the strength of household bleach. Contact us at watercarpenter@hotmail.com with any problems or questions. Or look on our website at www.swimforhim.org.

Step Summary

- 1 Mix salt & water solution (approx. ¼ cup salt to 16 oz water)
- 2 Connect wires to 12 volt source (negative, or black, to negative; positive, or red, to positive)
- 3 Pour the saltwater solution through the CPU into another bottle (observe the bubbling process)
- 4 Carefully repeat the pour-through process 5 times.
- 5 Unhook the battery wires.
- 6 Rinse the CPU by pouring clean water through it.
- 7 Add 10 drops of the solution for each liter of drinking water.
- 8 Wait one hour before drinking.