Metabolic Solutions Report
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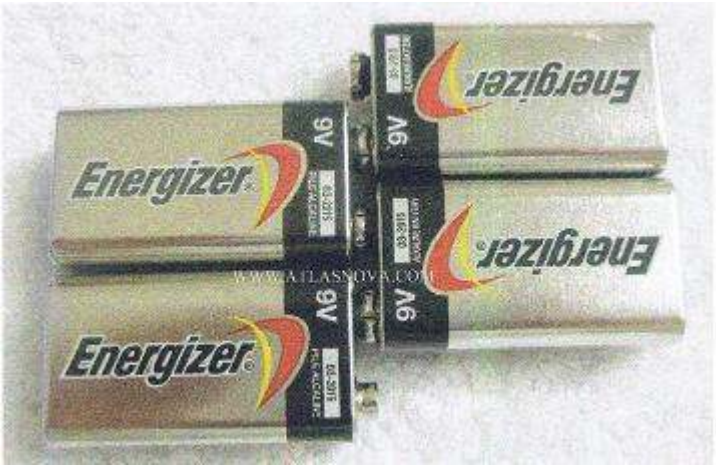
**The easiest cheapest CS brewer**

The following is my attempt to simplify as much as I can the CS-brewing process so that most anyone can do it, along with my own experience as a Natural Health practitioner as to the safety and effectiveness of this home-made CS.

I have sold my own 1-gallon per batch CS-brewer to many single moms, little old ladies and men who have zero experience with anything electronic all over the world (20 countries) who don't know what a multi-meter is, nor fuse-holders, lights, switches, resisters, bubblers, stirrers, laser pointers, etc. Too much information!

Yes, you can make perfectly effective CS using three or four 9-volt batteries hooked together like this:




You would need to then connect wires to the two outer unattached/unconnected battery terminals. These wires should be anywhere from 12" to 24" long, and you would need to connect alligator clips to the other ends that would attach to the silver wires. Some folks simply put alligator clips on both ends of each wire to make attaching the wires to the batteries and silver wires easy. I have found that what I am describing here is already becoming a bit complicated to many folks, and, indeed, makes them go out and buy someone's already assembled CS-brewer. On the other hand, I have sent my brewers to South Africa (Zimbabwe) and East Africa (Kenya), where electronic components and even 9-volt batteries are difficult to obtain.

How long will 9-volt batteries last? Months. Of course, the only way to know if your batteries are still good is to have something else (like a small light) to hook them up to and see if it works. Or, of course, if you have some kind of a battery-tester (or volt/ohm meter).

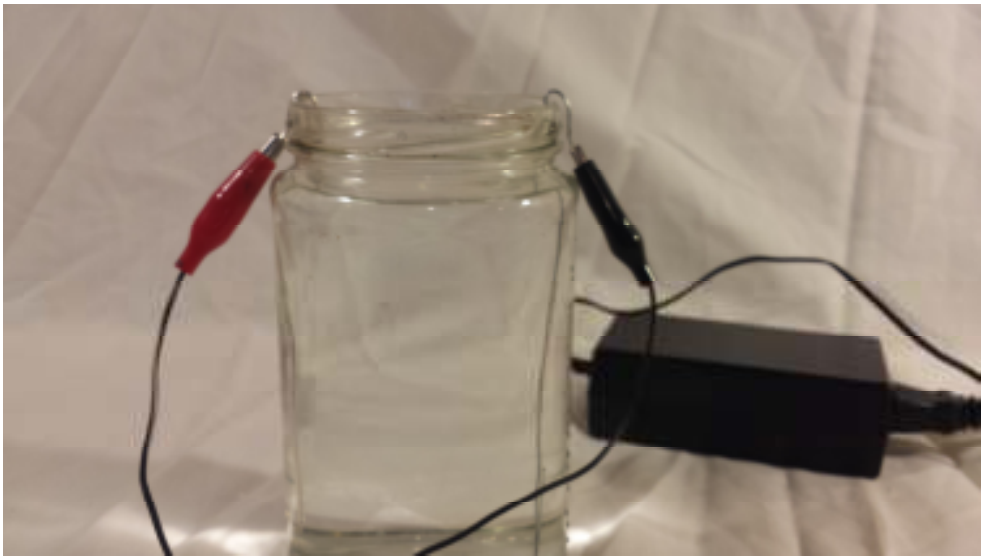
The superior, simpler, cheaper way instead of batteries is to obtain a 30-36 volt DC ink jet printer power adapter (available at nearly all Goodwill/Salvation Army type stores, or many yard sales, very cheap; and, of course, ebay), cut off the end of the wire that plugs into the printer, and attach alligator clips to those two ends. You would end up with something like this:

I will say this: All the methods and instructions for brewing CS that you will read on the internet will make effective CS. It is my opinion that many of them complicate a very simple process, so I am presenting here the simplest, easiest method I know.

That last photo (above), using a printer power adapter, shows the silver wires suspended into the jar about 1" to 1-1/2" apart. I would place them as far apart as the jar allows. The wood strip across the top is ok (if you want to cut wood and drill holes), but I just bend one end of each wire so that the wire looks like an inverted "J". Hang the end of each wire over the edge of the jar, with about 1/2” of wire hanging down on the outside of the lip of the jar and the rest of the wire hanging down inside the jar. Hook up the alligator clips to each outside wire tip. The alligator clips don’t hook on to the sides of the wires, but onto the ends, like alligators trying to bite off the ends of the wires with their front teeth. If you discover the wires resisting hanging straight down, twist the alligator clips in one direction or the other (like you were screwing or unscrewing the alligator clip) until they make the wires start to angle the other way and hang straight down. Or just bend the wires until they hang straight. I say “straight”, but actually, you can curve them a bit so that they lean towards the inside of the glass jar wall away from each other, hugging the inside of the jar walls and putting as much water between the wires as possible. This is especially true if the mouth of the jar is smaller than the sides of the jar. The idea here is to make the wires be as far apart from each other as the jar walls will allow.

It’s ok if the wires touch the jar walls**.** By straight down, I don’t mean that the wires need to be pencil-straight, I only mean that they should point down towards the jar bottom instead of angling sideways. The inside ends of the wires should stop about 1/2" from the bottom of the jar. Some folks bend the outer wire tips slightly away from the jar walls to make it easier to attach the alligator clips to the wire ends.

Here is a photo of a simple brewer set up:



In this photo, this is not a 1-quart jar (a bit smaller), but you get the idea of what it looks like when set up.

Yes, instead of the printer power adapter, you could have those 9-volt batteries that are attached to each other, with wires running from the batteries to the alligator clips you see in this photo.

Now, on the topic of brewing time. You've already read that steam distilled water (SDW) is the best water to use.

I want to say something about steam-distilled water. If you find water in a store that says "steam distilled" water on the label, it is actually steam-distilled water. If it merely says "distilled" water (without the word, "steam"), it is not necessarily steam-distilled water (though it should be). The word, "distilled" is frequently used to describe any type of water treatment whatsoever, from reverse osmosis to a carbon Brita filter to filtering it through a paper napkin! For pure, clear, good CS, you need to use steam-distilled water. If you brew CS from any other type of water, it will not be clear, but cloudy/murky, and the brewing time will be considerably, even drastically, shorter. More on that later.

Here is an important tip for speeding up the process of brewing CS: After your first batch (with only steam distilled water), save 1/4th of that CS as starter for the next batch (for example, 8 oz. of CS combined with 24 oz. of SDW to make a quart/liter of CS). Doing this will reduce your brewing time by 2/3. If it took you, say, 3 hours using just SDW, with CS starter you would only brew it one hour.

Assuming you are using good quality steam distilled water, your first batch will need to brew for anywhere from two to six hours. The reason for this great range is because you don't actually know how pure your water is. Qualities vary greatly from brand to brand and even from batch to batch by the same company. You will find that out for sure when you brew with it. If your water gets cloudy after only a short time, the water is not as pure as the water would be if you were able to brew for four to six hours and it was still crystal clear. But it's nothing to worry about. You're not going to brew something toxic or dangerous, no matter how long or short you brew it.

So how long really? Here is the most simple I can make it: Brew it for 2 hours, then taste it (taste some water first to compare). If it has any bitter or metallic taste whatsoever, it is at least 10 ppm, which is all you need. If it has no taste, brew it another 30 minutes. Keep tasting and brewing until taste occurs, then it is done. It's usually better to let a child or a woman do the tasting, as they usually have more sensitive taste buds.

What if it does turn yellow (or gold), cloudy or murky? Should you toss it? Speaking for myself, I never throw CS away. I cannot estimate how many hundreds of gallons of yellow and gold CS my family and I have drunk in the last 18 years. No one has turned blue, but also, sickness in my family is rare.

If it turns yellow or cloudy in less than 2 hours, it means that your water is not as pure as it could be (or else you need to scrub out your jars with a nylon pot scrubber with hot, ***non-soapy*** water before brewing again). Use some of that CS (yellow or not) as starter for the next batch (drink the rest), and brew it the optimal time ('till taste occurs).

It's also perfectly fine to just brew it 3 hours the first time and 1 hour each batch thereafter (using CS starter), since you can freely drink it even if it is not very strong. Feel free to contact me with questions. Whatever color CS you get**, it is *not* dangerous or ineffective**. You may want to dilute it for taste, but **don't throw it away!**

OK, after you have set it up and turned it on, here is what to expect:

After a few minutes you may observe tiny bubbles rise from one or both of the wires, while a very fine silver mist may begin to float off the other. This will take longer, up to half an hour or more, with your first non-starter batch. It will happen faster if you are using CS starter, but sometimes it doesn't happen at all. The color of the water when you are finished, whether gray, yellow or gold, is not relevant to the effectiveness of the CS. The more color, the stronger the taste. Also, ***the more color, the shorter the life of your silver wire, so clear CS is optimal.*** Since there are usually silver sludge/particles to some degree after the batch is finished brewing, you might strain the CS through a coffee filter or paper towel, although that is not essential or even important. (The silver particles are not harmful.) One of the wires may grow a gray "fuzz" around it, making the wire look like a long, straight, furry caterpillar, which you may want to gently wipe off (not scrub off) the wire with a cloth or paper towel when you are through. (I don't even bother.) This is normal**.** ***You can make no mistakes that make CS toxic or dangerous if you follow these directions and use pure silver wire and pure steam-distilled water.*** It's difficult to make a mistake even with non-distilled water. If you leave it too long and the water is loaded with silver sludge/particles, it may be too bitter to get past your tongue (though it wouldn't hurt you), or you can dilute it with more distilled water and drink it. Some people intentionally make it stronger for topical applications (though that's not necessary). Your jar will eventually become stained on the sides and bottom with silver oxide, which scrubs off easily with a nylon pot scrubber (I do it every 6 months or so). One of the wires may become "hairy" with a gray-black fur, and there may be gray-black stuff on the sides or bottom of the jar, or floating around in the water. There may be a silvery film on the top of the water, though this usually only happens if you overbrew it. This may also be an indication that your water is not as pure as it could be, but none of it is anything to be concerned about. The purer your water is, the less you will see of stuff on the wires or on the jar, although you will see it happen eventually, and you will see some of it in almost every batch anyway. **Don't let it bother you, it's harmless.**

At the end of the brewing time, turn off the device (and/or unplug it) and unhook the alligator clips from the wires. **Make sure you have turned off/unplugged the device *before* you unhook the alligator clips.** Put a coffee filter into a funnel or coffee filter holder from a coffee brewer (if you decide to bother to strain it), pour your CS through it into a clean jar, and you've done it! If you *very gently* stir the batch during the brewing, every 30 minutes or so, the fuzz will be much less, and there will be less "sludge" in the water. (I don't personally bother.) If you do stir it, **turn it off** before stirring to prevent the wires from accidentally touching each other and blowing the fuse (or frying the adapter). You can stir it with a plastic, wood or even metal utensil (make sure it is clean). Generally, stirring is only significant if your water is not very pure.

When you are making clear CS, your silver wire will also last the longest (about two years, on the average). If you forget while brewing and don't turn it off, you can completely dissolve the silver wire (a very expensive batch of CS) and your CS will look like sewer water. (I've done it several times. I just super-

diluted it and my family and I drank it anyway.) A **digital timer** is a very good investment (one that shuts off the power is nice, but not always dependable). Having some kind of alarm to remind you to shut it off is essential, unless you have total recall. A Dollar Store has them cheap (they just remind you). At any time that it starts becoming yellow or cloudy, stop brewing and use some of that batch as starter for the next batch (drink the rest). With future batches, drink any colored or cloudy batches (I drink all my off-batches – I never throw any CS away). If the taste is too bitter, simply dilute it to taste.

Where can you get Fine silver wire? ebay nowadays is present in most countries of the world, and Fine silver wire is available that way.

Here are sources:
**Canada:**
http://www.ebay.ca/itm/1Ft-999-Fine-Silver-Round-Dead-Soft-Wire-Jewelry-8-10-12-14-16-18-Gauge-GA-/161781684796?var=460755377902&hash=item25aaf09a3c:m:msrtu56b1mb9f-n5frklwsw

**US:**
https://www.ebay.com/sch/i.html?_from=R40&_trksid=p2380057.m570.l1313.TR0.TRC0.H0.TRS0&_nkw=.999+Fine+Silver+Round+Dead+Soft+Wire&_sacat=0

Buy a couple of feet of 16 gauge .999% Fine silver wire or even 14 gauge (slightly thicker wire). My clients report that one set of 16 gauge wires, brewing 2 gallons per week, lasts about two years. 14 gauge would last even longer.

***"What if I can't get steam distilled water?"***

Now, after having suggested the above brewing times, the reality is that your experience may be different because of the quality of your water. If your water has minerals or other stuff in it (such as is the case with well, spring, filtered, reverse osmosis or tap water), you will need to brew a much shorter period than I suggested. If you end up with cloudy, yellow or gold or darker CS, you will need to experiment with brewing times until you accomplish what you like. If you are using any other water but Steam Distilled water, you don't need any CS starter, the minerals in the water will be starter enough.

Using any other type of water, the process is simple: Brew for 10-15 minutes. Remember that over-brewing with non-steam distilled water uses up your silver wire much, much faster (up to 5X or more faster). Avoid using chlorinated water. Contact me with any questions.

If you just aren't up to assembling the simple brewer described in this article, I can send you one for $55 plus shipping. If the quart-per-batch production of the above brewer is not adequate for your needs (you have a large family, are providing for a group, want to sell it on the side or are treating a serious health issue like MS, Lyme, cancer), contact me about my 1-gallon per batch CS brewer.

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