



Instructions for Making Colloidal Silver

Your Colloidal Silver Generator is mains operated and works on a 'constant current' principle. This ensures that, as silver particles are made and the conductivity of the water increases, the particle size remains the same rather than increasing as it does with standard machines. To utilise this principle takes a little longer (25 minutes) but gives a far superior product.

You will require a small glass. Distilled water is best but not essential. (We stock 1 litre bottles of distilled water).

Use tap water to make colloidal silver if it is to be used for household cleaning.

1. Rinse glass with distilled water.
2. Fill glass with 200ml of distilled water heated to 25 – 30°C approx. to raise conductivity. If you are using distilled water add 2.5ml of filtered tap water to aid conductivity.
3. Connect a silver electrode to each of the connector blocks.
4. Place the electrodes into the water and ensure that the connector blocks do not touch the water.
5. Do not let the electrodes touch each other or the inside of glass.
6. Switch the generator on.
7. Remove after 25 minutes, stir using a plastic spoon and store in a glass container in a dark cupboard (do not use plastic to store colloidal silver).

Following use you will find that the 'positive' electrode has darkened, this is silver oxide, which should be removed with a pan scourer before using again. Gently wipe over.

Generating Colloidal Silver

What kind of water produces the best colloidal silver?

Colloidal silver (CS) was known and used for centuries for its effectiveness in killing infections. Prior to the development of antibiotics by the pharmaceutical industry, it was also extensively used by the medical community. The American physicist Dr. Bob Beck (1925 – 2002) was mainly responsible for reviving interest in CS, and himself used filtered tap water. Some suppliers of colloidal silver generators in the UK insist that tap water is sufficient, while others advocate using distilled water. This is confusing, should we use tap water, filtered tap water, distilled water or some combination? Experts in the USA state that they now only recommend distilled or purified de-ionized water—as tap water varies so much in quality. In the USA consumers can readily obtain distilled or purified de-ionized water from supermarkets (not spring water).

We extensively researched the production of CS using various waters. This led to redesigning our colloidal silver generator. For complete peace of mind, we had the results tested by Mintern, Treharn & Davies, a large nationally respected laboratory. There is another problem with using battery operated CS generators: they can lose power without the consumer realizing. This results in varying particle size and parts per million (ppm). Unless batteries are tested and changed regularly there is no way of regulating these factors. Batteries may go flat at awkward times and are expensive to replace.

So, what changes have we made and why? Firstly, the water itself: We now recommend using only distilled water. Distilled water is, surprisingly, a very poor conductor of electricity, which means that the process takes longer—around 30 minutes. The process starts slowly but accelerates exponentially. As more and more silver migrates to the water, conductivity increases, amperage rises, and larger particles are formed. Therefore, there is a need to strictly limit the time taken to produce CS, or better still maintain the amps at a constant level so that the particle size remains constant. This is our second modification: We achieve uniform particle size by using mains power reduced to 12 volts through a small transformer and including a constant current circuit in our upgraded CS generator. This not only produces a superior product but is cheaper over a period of time. The results as tested by Mintern, Treharn & Davies are excellent—the average particle size is between 0.45 and 1.2 microns and when using 200ml of water and allowing 30 minutes production time 3 to 5 parts per million are produced. This gives a 5ml teaspoon approx 18mcg,

Safety and Effectiveness

Specific documentation on the optimum potency for effective use is sparse. This has led to a wide range of products of varying potencies—all claiming to be the best. According to N.R. Thompson of Runcorn Health Laboratory in England, the concentration of silver necessary to sterilize water contaminated with pathogenic bacteria is between 40-200 gamma, or 0.04 to 0.2ppm (1ppm = 1000 gamma). In 1940 and 1966, respectively, R.A. Kehoe and I.H. Tipton reported that under normal circumstances the average daily diet yields approximately 50mcg to 100mcg of silver. Therefore, it seems logical that a concentration of 3 to 5ppm, yielding 15mcg to 25mcg of silver per teaspoon, will be a sufficient concentration to be both effective and safe. A 4oz. container of colloidal silver at a concentration of 3ppm will contain approximately 355mcg of total silver—well below any reported toxicity level. Higher concentrations above 5ppm, or about 591mcg of total silver in a 4oz. container, may cause silver build-up in the system and are not necessarily more effective. **Any product containing higher concentrations than what is found in the average daily diet should definitely be used with caution, only during a time of need and certainly not for extended periods.** Stability is another important aspect of colloidal silver products. Some companies add a protein or chemical stabilizer, allowing a higher concentration of silver with a greater level of stability. The downside is that most stabilizers bond to and therefore reduce the antimicrobial effect of silver. Such products contain higher levels of total silver to compensate, and should be used with caution because in all documented cases of silver toxicity, called Argyria (the permanent discoloration of the skin due to silver deposits), the product in question contained high concentrations of silver compounded with stabilizers such as silver nitrate or silver acetate. **Argyria has never been reported from pure electro-colloidal silver free of protein or other stabilizers.**

Health Leads UK Ltd., Horeb Business Park, Horeb, Llandysul, SA44 4JG

 +44 (0)1559 364711

 sales@healthleadsuk.com