

USER'S INSTRUCTIONS FOR MAKING COLLOIDAL WATERS OF SILVER AND OTHER METALS

Re-Edited June 1, 2021,

With our higher DC voltages of 100v and 140v, do not handle the electrodes while power is switched on. We have a new important upgrade, recently developed in my research laboratory. Upgrade is available on your old 24v or 48v generator, whose voltage is often not sufficient for pure distilled water. Call us for an upgrade to 100 volts or more. In addition to control of current, we now also provide control of voltage to allow you to increase or reduce the high voltage to a voltage more suited to higher quality.

Read our new sites at

www.biophysica.ca and at www.colloidalsolutions.net

UPGRADE: High Voltage Our latest generators now have an internal booster module to step 12 volts up to 100 or more volts. Use our new 12 volt international power supply **not the old 48 or 24 volt supplies which will damage and destroy the new 12 volt generator.** 12 volts is more convenient to be able to use an automobile battery or solar panel in cases of power failures. **Use only a 12 volt power supply, at 3 amps, with 2.1 mm plug.**

Stirring: In place of the old stirrer motor and magnetic stirrer, Stirring can be accomplished using a laboratory-style motorized magnetic plate which induces a magnetic vortex, alternatively using an immersible aquarium water pump for large containers over 1 gallon.

Stirring is important in order to prevent our precious atoms from depositing on to the cathode instead of circulating in the water as a colloidal suspension of charged nanoparticles.

Upgrade: The above 2 upgrades on our older domestic generators will include the immersible pump, and 100 volt step-up module to overcome lack of Conductivity of Distilled water + labour. Cost = \$380 USD for single channel and \$480 for double channel models.

Power and Ohm's law: We have upgraded the supply voltage and current of our domestic and commercial models from 48v to 100v and more in order to more effectively process distilled water and to speed up the commercial production of large volumes. This new advanced model provides a constant current which is chosen and fixed by the operator within the range from 8 milliamperes to an industrial maximum of 500 milliamperes. Much higher currents are available in our inline [industrial models](#) for [agriculture](#), swimming pools, cooling towers, hospitals and hotels, cattle, poultry and fish farms.

Meter: We have included a digital meter on the front panel of the generator to indicate electrode current in milliamperes passing through the two electrodes. This gives a direct indication of the ability of your water to conduct electricity at a safe level for highest quality, which is 1-2 milliamperes per square inch of electrode surface area. A pair of 2" x 6" electrodes should therefore receive no more than 10 to 20 mA.

Productivity: Much depends on the area of the electrodes. My 2" x 6" and 6" x 8" sheets of solid silver, gold, zinc, magnesium etc will determine how much and how long the process will take, while still ensuring the highest quality. We cannot drive the metals with more than 1 to 2 milliamperes (mA) of current per square inch of electrode surface to ensure the smallest range of nanoparticle size, down to mono-atomic to pass the blood-brain barrier. Larger area allows larger current to safely provide faster, larger volumes. For example my 2" x 6" domestic electrodes should be driven at 10 milliamperes to get 1 ppm per hour, whereas my 6" x 8" commercial electrodes can be safely driven at 50 mA to obtain 4 -5 times faster productivity.

Diluting: Do not dilute the final Colloidal product with any kind of water. We have discovered that mixing in unstructured water destroys the fine structure and Zeta Potential electrical charge of the hexagonal structured colloidal water.

Heating: Heating the water to 50 C dramatically improves conductivity, increasing current. This should not be necessary with our new high voltages. We can sell a powerful immersible rod heater (not Aquarium variety) and several are available on Amazon. The immersible heater rod significantly increases the electrical conductivity of water. This is helpful when beginning the electrolysis process using distilled water, which hardly conducts electric current at room temperature. Using this heater for 12-24 hours will help start your process much more rapidly, and you will see the milliampere current rise to around 10 mA. Amazon sells small heaters for 110v, 220v and 12 volts (10 amps). Such as Diximus 300W travel heater

Safety of Colloidal Silver:

It has been established by EPA (CASRN 7440-22-4) that it is safe to ingest a daily quantity of 350 mcg (micrograms) silver in the ionized form. Nanoparticulate silver, on the other hand, seems to have no upper limit and has never given rise to toxicity. This is the amount that is contained in one ounce (30 ml) or in six teaspoonfuls of 10 ppm colloidal silver. 50 ppm is generally produced by 48 hours of charging pure RO water in a 2 gallon container with a pair of 2" x 6" electrodes. 25 ppm is generally produced by 25 hours of charging pure RO water. 3 teaspoonfuls of 25 ppm contains 375 mcg. Legally available colloidal mineral waters for oral consumption are available in most pharmacies and are not sold by us, because we have not applied for

registration. According to regulations, more concentrated CS water should be restricted for disinfecting and cleaning surfaces, however I have personally ingested CS orally at 50 ppm for the last 25 years. PPM can be determined by using a conductivity meter (in microsiemens) which we sell (not a TDS meter which is inaccurate). Be aware that selling unregistered natural products could be in violation of local laws.

More information can be seen at http://shop.biophysica.com/colloidal_mineral_waters/user_manuals.php and at <http://biophysica.com/content/colloidal-silver-generator/colloidal-generator-user-manual-colloidal-silver-generator/> and at my new site www.colloidalsolutions.net and at <https://sites.dartmouth.edu/toxmetal/more-metals/silver-metal-of-many-faces/the-facts-on-silver/>

Other Metals: Our CS1 generator will make colloidal mineral waters of many other metals. For these we sell electrodes of silver, zinc, copper, magnesium, gold, tin, iron, platinum, palladium, titanium, carbon, steel etc. More exotic and rare metals are generally not available in electrode form with sufficient purity for human consumption. Germanium, Selenium and Silicon are semiconductors and not available in electrode form. Lithium, Boron, Indium, Molybdenum, Chromium, Vanadium, Neodymium, Gallium, Silicon, Iodine, Sulphur, Phosphorus and Selenium are not available from us.

New Electrode Sizes: We can now obtain most of the popular metals in any size of plate up to 6" x 12" with purity of 99.99%. We recently sourced custom rolled large area Iron, Magnesium and Zinc which have been very difficult and costly to obtain with the 99.99% purity we demand (99.95% is readily available but is not pure enough). Each electrode has its mark on the top right corner (Zn, Fe, Mg, Ag, Cu, Pt, Pal)

Electrodes: We now stamp our electrodes on the top right corner as follows: Silver=A, Zinc=Z, Magnesium=M, Iron=F, Tin=T, Platinum=P, Palladium=L, Steel=S, Titanium=N, Copper=C, Carbon=R.

Water Source: Obtain Reverse Osmosis or distilled water which has no Chlorine or Ozone. It is usually available from water stores as R.O. water. If there appears a cloudy result in the Colloidal Water it is usually because there has some Chlorine, dissolved Oxygen or other oxidizer in the source water. I have had good results with R.O. water and with Distilled. A recent analysis indicates that the purest available water has not only dissolved oxygen but also a wide range of harmless large sized nanoparticles. This will interfere with any nanoparticle analysis of our product. To have a laboratory analysis done, start the process using laboratory quality purified water. The analysis of our product showed a very high Zeta Potential of over 100 mv and nanoparticle size range of 2.5 nm which indicates the highest quality in our industry. There is a useful article at https://en.wikipedia.org/wiki/Zeta_potential

Zeta Potential: The **zeta potential** is a key indicator of the quality and stability of colloidal dispersions. The magnitude of the **zeta potential** indicates the degree of electrostatic repulsion between adjacent, similarly charged particles in a dispersion. We have had our nanosilver water tested and was found to have a Z.P. exceeding -100 millivolts which is the highest practical level.

Filtration: Electrolysis always produces oxide particles due to the production of Oxygen and Hydrogen from the breakdown of water and from Oxygen dissolved in the water. Cloudy water is normal at first. These oxide particles should be filtered out, preferably by allowing sedimentation of the produced water over at least 24 hours and pouring off the upper layer of clear colloidal water. Then if necessary filter with a brown coffee filter, such as #6 size. We also offer a laboratory quality vacuum filter for lab analysis.

Discoloration Of The Water: Because of the range of silver oxide particles produced, the water at first appears cloudy, brown or dirty. Some degree of filtration is necessary. Generally it is better to allow the produced water to stand for 24 to 48 hours to allow particles to sediment leaving a clear liquid. Filter using a brown unbleached coffee filter or alternatively a 1 to 10 micron filter can be used. Sometimes the water has a yellow colour. The yellow tinge is harmless and indicates that some of the silver has oxidised to insoluble silver oxide due to the oxygen already present in the water and also produced as part of the electrolysis process. This seems to be due to the presence of a large amount of particles in the size range above 10 nm.

Interesting graph which helps explain the yellow colour at <http://www.silverwell.com.au/Making-CS.html>

Conductivity: Measure the conductivity of the water before and after the charging process to determine an approximate measure of parts per million (mg/Litre or ug/ml). We sell a suitable sensitive conductivity microsiemens meter (not a TDS meter which is inaccurate and calibrated for Sodium Chloride) for \$140 USD. It is also available from Amazon as PWT (HI98308). When your water is too pure, eg 1 microsiemens, heat the water to about 50 degrees C which will raise the conductivity to about 15, which will allow you to get started. We can sell you a powerful immersible heater rod to maintain the heat over many hours. Alternatively get our new high voltage upgrade to allow you to use highly purified waters.

Conductivity Anomalies: Often the Conductivity meter will show a diminution of water conductivity rather than an increase during the process. This is because you are now producing nanoparticles (negatively charged) not ions (positively charged).

Electrodes: In order to ensure the smallest highest quality of nanoparticles, we recommend large area electrodes of 2" x 6" or 6" x 8" for larger commercial volumes and 6" x 12" for industrial. Small area electrodes such as wires or rods will inevitably be overdriven and produce large particles over 20nm which cannot pass the blood-brain barrier to inactivate the viruses and bacteria which cause Alzheimers, M.S., Chronic Fatigue, Lyme,

encephalitis. Here is the order of weight from the lightest element to the heaviest: Mg, Fe, Cu, Zn, Ag, Au. We now offer a stainless steel electrode as the third Cathode.

Electrode Current: Turn the electrode control level on the generator to lowest counter-clockwise level at first for highest quality and slowest charging rate. Each metal has its own unique upper energetic and frequency level, which you should not exceed. Our latest commercial units have fine and coarse current range controls, for greater accuracy.

Discoloration Inside container: The silver and other metal atoms act like an electroplating process which deposits metal atoms on all surfaces. You do not have to remove this harmless film. Wipe the inside of the container with paper towel, not tap water (chlorine). Remember that silver oxide is a very black fine powder which will stain everything including your hands, so be careful what you touch, such as generator.

Cleaning Electrodes: Use fine steel wool to remove any oxide from the electrodes before each session. Do not use soap. Zinc and copper plates are difficult to clean and require vigorous strong rubbing with coarse sand-paper or electric sander (which we use).

Ions: Our technology reduces the formation of ions. Whatever silver ions present will be immediately neutralized by stomach Hydrochloric Acid or incorporated into proteins and be ineffective or cause Argyria (blue skin discoloration), thus giving CS a bad reputation. Our research has been focused on producing a range of bio-available nanoparticles of less than 10 nm, rather than ions. Older, traditional processes of our competitors, using wires or rods, overdrive the electrodes and will cause ions, and silver particles larger than 20 nanometres and up to 1 micron (1000 nm) to be etched off the anode electrode and enter the water. These crude large particles may kill some bacteria but are ineffective against small viruses and the smaller highly destructive Prions (cause brain damage & Alzheimers). Ideally the electrodes should have large area with low levels of current ie low current density (10 milliamps) for the smallest most effective nanoparticles.

Nanoparticles have an electrical charge, Zeta Potential of no less than -60 mv, which is more powerful than the charge on an ion and, like a laser, is capable of burning holes in the outer membrane of viruses and bacteria.

Engineered weaponized nanoparticles (NP): We have been inspired by the research of Professor William Tiller (tiller.org) to experiment with electro-magnetic techniques to fabricate unique structured NPs each of which carries an imprinted message and frequencies to combat specific viruses. In contrast to ions, NPs of many metals, especially gold, silver and zinc, have an internal complexity and structure which is capable of storing psycho-energetic messages designed to gather and converge the ZP into a laser-like intense beam to pierce viral membranes. See <http://colloidalsolutions.net/nanoparticles-as-weapons>

Choice of water: When you do this yourself, it is very important to control the purity of the water, because the purity of the water is one of the factors that ensures that the metal clusters will be mono-atomic atoms, not ions. As with all Homeopathic remedies, use preferably good quality non-ozonized and not-oxygenated Reverse Osmosis or distilled water with conductivity between 2 up to 20 microsiemens of dissolved solids should be used and is available in many water depots. Do an internet search for "water depot" in your area. Ideally you should not use spring, tap or mineral water because it still has too many dissolved minerals and ions in it. R.O. water is ideal to start the reaction slowly and let it proceed properly for up to 12-24 hours. Distilled water and some RO water may be too pure to start the process. Make sure it is not chlorinated or ozonized since Chlorine and Oxygen have an oxidizing effect on metal atoms. However in emergencies any water can be used and we have used ozonated water with good results, although sometimes resulting in a harmless yellow tinge. Most distilled water may be too pure to conduct much electrical current (10 milliamperes) at first and may need seeding with previous colloidal silver. The addition of Citric or Ascorbic Acid (Vit C) should not be necessary with our new high voltage system.

In an emergency or in third world countries, any source of water is safe and suitable for immediate use, even contaminated drinking water or tap water in spite of its dissolved Chlorine content. For highest quality NANO WATER use Reverse Osmosis water to obtain the smallest mono-atomic particles for long-term storage and effectiveness. Some manufacturers of CS Water add vitamins or trace minerals such as Iodine, Manganese, Zinc, Potassium, Cobalt, Sodium, Selenium, Chromium, Silica, and Boron or use mineral or Willard water. These might seem to have the advantage of containing other essential minerals but have the disadvantage of providing more vigorous conductivity for the electric current and the release of ineffectively large particles and no mono-atoms. Also, they introduce metal salts which contaminate your product. In the final product, there should be no salts present, only highly charged atoms, each atom having an electrical charge (Zeta Potential) and acts only as a catalyst. The fewer the number of atoms (each 0.12 nm) in each cluster, the smaller the particle is and the more effective it is in protecting immunity by penetrating deep into mitochondria, bacteria, smallest viruses and prions. The slow charging process (12 to 48 hours) plus Alternating Polarity and High Frequency Pulses used in our colloidal generators allows only the smallest mono-atomic particles to become detached one-by-one from the surface of the metal electrode. We recommend 24 to 48 hours charging for a strong high quality product of about 30 to 50 ppm for drinking, cleaning and surface purposes. Ideally storage container should be of dark glass or some drinking water quality dark plastic.

Water: Go to your local pharmacy or Walmart and buy a 1 to 8 litre container of standard Reverse Osmosis

(R.O.) or distilled water. Unfortunately most distilled water sold is already OZONIZED which oxidises the silver causing a yellow colour. We have tested unmineralized R.O. water as being most suitable. Other mineral waters and tap water are too conductive and may contain Chlorine and other minerals.

Do not add minerals or salts. Heating the water helps increase conductivity, if necessary, causing higher electrical current levels at the electrode surface. Your product should have a minimum of IONS, and mainly ATOMS and molecular clusters of atoms (called nanoparticles).

Container: Not normally included in our package. For processing, use a plastic or glass container (1,2 or 5 gallons) or water tank with outlet tap (spigot) for processing, such as at plastic-mart.com or uline.com. For Storage, a glass or ceramic container is best. A metal container would not be suitable.

Rubbermaid Square Food Storage Jar Canister, 3.8 Litre (1 gallon), White at Walmart, Amazon, ShopYourWay.com at \$5 each. 1 L is also available. Uline.com has 1 gallon Plastic Grip Jar S-15711 at \$4 each.

Choose a container with a tap at the bottom and a 4" diameter mouth and at least 7" deep. See picture on our website. If you cannot find these "Beverage Dispensers" locally, eg WAYFAIR, WALMART, Amazon (Beverage Container 2.5 gallons) we can sell them to you with tap (Spigot). Although glass is expensive for us to pack and ship. For processing, a plastic container is ideal; while for storage and selling, use glass.

Fill a sufficiently deep 1 to 12 litre (3 gallons) jar, cup, fish bowl, or flower vase sufficiently full of distilled or reverse osmosis demineralized water.

Electrodes: Take care inserting the electrodes straight into receptacle, holding it by the plug. The gold-plated pin may bend and break. Clean electrodes, if blackened, with steel wool (unsoaped) before each use. Do not use detergents or soaps on the electrode surface. We recommend large area sheet electrodes, not wires or rods which have a small surface area and result in overdriving the surface, producing large ineffective particles over 20 nanometres in diameter. Keep your **generator clean by washing your hands before touching it, OR USE RUBBER GLOVES.**

Charging Process: Insert the electrodes into one or two red and one black outlet. The red outlet (Anode) is the active electrode for Silver, Gold, Zinc, Copper, Magnesium, Titanium, Platinum, Iron, and the black or green outlet is for the ground cathode electrode which is usually silver. The cathode is negatively driven, and does not contribute atoms. You can safely short the red to the black electrode, because of our proprietary constant current feature. The current is limited and programmed to the correct milli-ampere and frequency level for the particular metal regardless of what water is used (even sea water). Make sure that no water enters inside the generator as this will cause destructive corrosion of wires. With our higher DC voltages of 100v and 140v do not handle the electrodes while power is switched on.

Metal Choice: Nanometre_Knob changes the current and frequency levels so as to be appropriate for each metal. The knob changes the size of nanoparticles from small to large, depending on the quality you would prefer. Low level (10 milliamps) corresponds to higher quality.

Time: Allow the process to continue for the chosen length of time according to the concentration you want, usually 8 hours for 1 litre for 10 parts per million of Silver, or 1 ppm per hour using 2" x 6" electrodes in 2 gallons (8 Litres). Slow trickle-charging ensures the best mono-atomic nano-water. For strengths up to 50 ppm, you can safely leave it charging for 12 to 48 hours. If you forget and leave it on for one week, it will still be safe and of excellent quality. We can provide an external timer to switch off the generator after 24 or 48 hours. Try to use only strong CS water of 40-50 ppm in order to be maximally effective against pathogens.

Stirring: The immersible pump is just sufficient to induce a vortex but avoid bubbling & mixing with air. It is used to enhance the quality of the product by restructuring the water and contribute to the very high Zeta Potential of our nanowater.

Completion: After 24-48 hours remove and wipe electrodes of oxide. Be advised that the electrodes will become discolored and water will appear murky at this point due the presence of Silver oxides. **SUBSTANTIAL SILVER OXIDE BROWN MUD FORMATION IS NORMAL.** Use this "mud" to make a topical lotion for your skin.

Allow the container to sit undisturbed for 24 hours then filter. Filter out insoluble floating and sinking oxide particles through an unbleached coffee filter and funnel or our more elaborate 1 to 10 micron filters. You can use the filter several times over. Store electrodes in air-tight plastic bag to prevent blackening with oxygen. Oxides result not only from pre-dissolved oxygen or ozone but also inherently from the electrolysis process.

Other minerals: For Gold, Platinum, Palladium, charge for more hours up to 7 days, depending on the area of your electrode. For other base metals using the, Zinc or Copper electrode plugged into the red positive (Anode) outlet (if you have purchased such an electrode). Keep the silver electrode (as cathode) in the black outlet. Ideally both metals should be of the same material, with Alternating Polarity switched ON. If you are using only one precious metal electrode for cost reasons, switch Alternating Polarity OFF.

Testing: Sample some of the nano-water by holding a small amount in your mouth to verify the bitter taste at the back of your throat. This indicates a concentration of at least 20 ppm. Electrical conductivity measurements in microSiemens measure positive ions and are not reliable with negative nanoparticles.

Storage: Store water in dark container, since light neutralises the Zeta Potential charge. Keep nano-water cool without refrigeration which would inactivate Brownian Movement. Do not shake bottle which mixes in

Oxygen causing tarnishing of the silver atoms and a harmless yellow hue.

Current: It is current which does the electrolysis work, not voltage. There are two ways to measure current. 1) You can monitor the actual current going through the electrodes while in the water, using our installed digital meter. 2) With electrodes out of the water, you would use a digital multimeter on the 200 millivolt scale with the two meter cables plugged into the outlets on the bottom of the generator, or connected to the electrodes.

PULSER: High frequency pulse modulation is now standard in all of our generators for making a higher quality smaller particle colloid of 1 to 8 nanometres. We now use 528 Hz, the Love Frequency of Dr Len Horowitz, frequency modulated Schumann Resonance. This causes regular variations in intensity of the current through the electrodes in the water, as the frequency is being modulated and helps to enhance Zeta Potential charge on each nanoparticle and is imprinted into the water.

The pulser is not to make stronger ppm but higher quality approaching atomic dimensions and to act as a carrier waveform for spiritual and Quantum effects and to combat Prions. For serious conditions, such as viral neurological disorders, the Pulser is a definite advantage. The Pulse mode enables smaller particles to be produced and is refinement on the basic process. Atoms coming off the anode electrode are of a higher quality and smaller and likely more effective against small vicious viruses like Mad Cow virus called a Prion.

PPM measurement: Even among experts there is confusion about ppm and how much is Ionic and how much particulate (colloidal) and how our conductivity meters and even analytical laboratories inaccurately reflect these measurements. Regarding the water test meter, it measures only electrical Conductivity of the water which is only an indirect measure of charged ions and atoms in the water and is the best method conveniently available. TDS (Total Dissolved Solids) is a measurement of Sodium Chloride not nanoparticles which are usually negatively charged, thus confusing the measurement. Don't use a TDS meter, use a proper micro-siemens conductivity meter which we sell for \$140. Even so, **taste is the best indicator of ppm.**

With distilled water the measurement usually commences at zero or 1 and slowly rises to about 25 microSiemens after 24 hours with Silver. Reverse Osmosis water starts around 5-10 microSiemens and goes up to 50 -60. An accurate measure of parts per million can only be done by sending a sample of the water to a special analytical laboratory, which we have done several times and correlated the ppm result with conductivity. However even professional laboratories give us conflicting, inconsistent reports. Taste is best.

Testing your generator: After several hours, there should be a slight oxide deposit on the electrodes and on bottom of container. Using the alternating polarity mode, there is usually little deposit, because of the self-cleaning action. One way of testing the generator for proper electrical output is to buy a cheap multi-voltmeter from Radio Shack and use it to verify and measure that there is a voltage between the two electrodes. Then switch the meter to the current range reading of 200 mA and test each current control setting. When you taste the water, is there a should be a distinct metallic taste? This is the best indication of success. If you don't taste it, then it is not strong enough.

Protecting your CS from light and other influences: Silver is light-sensitive. Most people and some experts don't bother to protect their CS water from light for the 2 days of charging. Our product is of such stability and high quality (using non-ozonated water) that we have found no measurable changes or deterioration after one year. Differences in concentration and colour are thought to be due to different quality of water, temperature and likely quantum effects, since we are making quantum-sized particles less than 20 nanometres.

CAUTION: Some metals, especially Magnesium, Tin and Titanium anodize rapidly and may disintegrate with prolonged exposure to electrical current. Please monitor and observe these electrodes every hour and limit electrolysis to a level that is safe for the electrode. Zinc and copper, on the other hand, need frequent vigorous cleaning and scraping. We use a small power sander.

Sacred Geometry: All of our circuit boards have Sacred patterns and the Chartres Labyrinth Mobius Coil (for Scalar Waves) etched into the copper circuit board such that the 528 Hz alternating current passes through the labyrinthine pattern before entering the water. As a consequence, the result is, or is close to being, miraculous sacred healing water.

Quantum Effects: Since the nanoparticles are within the range of quantum mechanics, we can expect them to exhibit interactions with Consciousness, entanglement, non-locality, condensates, time reversals and tunneling.

Discoloration Inside container: The silver and other metal atoms act like an electroplating process which deposits metal atoms on all surfaces, including the container, stirrer, cathode electrode. This plating is harmless.

Dosage: We suggest it is best to hold CS water under the tongue for 30 seconds while ingesting each dose. We recommend to always ingest CS water on an empty stomach. Wait 15 minutes before consuming any other liquid, nutritional supplement, or food. After meals, wait at least 1 hour before resuming dosages to allow the stomach contents to clear. Always use CS water in its pure form, so do not dilute it with other liquids or water. The one exception is fresh aloe leaf gel/juice mixed 1::1 which may be used to help more completely better nourish and support the liver and intestinal tract as a whole. If feeling immune challenged, drink plenty of

fluids, healthy soups, and/or fresh fruit smoothies, and consult with your holistic health care provider. Colloidal silver mixed with Aloe Vera make a good skin antiseptic and antiviral gel for skin conditions such as Herpes.

Maintenance dose: Recommended ingestion for adults - One tablespoonful (10ml) of 30 ppm provides 300 micrograms daily or every other day taken on an empty stomach. We recommend 1/2 dosages for younger children, or as directed by a licensed holistic health care provider.

In the presence of others with compromised immune systems: Recommended ingestion - 1 teaspoon to 1 Tablespoon 3 times a day ingested on an empty stomach (i.e., between meals), or as directed by a licensed holistic health care provider.

When confronted with an immediate immune challenge that may have compromised your feeling of wellbeing: Recommended ingestion - Take 1 teaspoon to 1 Tablespoon once every 20 minutes for up to 24 hours. Once your feeling of wellbeing returns, reduce ingestion to once every 1-2 hours on an empty stomach. If you continue to feel immune stressed, always consult with a health care provider to consider your options. CS water works well with other immune supports as directed by your physician so long as it is ingested on an empty stomach.

Long-term immune stress or compromise: Recommended ingestion - Take 1 teaspoon to 1 Tablespoon 3 to 7 times a day on an empty stomach, or as directed by a holistic health care provider. 1 Teaspoon (5 ml)

Chronic degenerative conditions: Be aware that medical scientists have recently discovered that some serious chronic degenerative conditions like Alzheimers, Parkinsons, MS, Diabetes, Myocarditis and Cancer may develop in the body as a result of old residual viral infections. This information suggests that we should all be taking our minimum daily requirement of Silver, which is 350 micrograms (0.35 mg).

Cancer: New information and evidence supports the use of CS to inactivate cancer cells. Look at www.colloidalsolutions.net or read the book "Colloidal Silver and Cancer" by Steve Barwick, \$50.

Safety: Properly made CS using a professional colloidal generator such as ours has no side effects and is totally safe at 50 ppm. I have been taking it daily for 25 years with no Argyria or digestive symptoms and put it in my cat food every day (JS).

Our single channel domestic colloidal generator CS1-45-DOM will make up to two gallons (8 litres) in one day of CS Our double channel domestic colloidal generator CS2-45-DOM will make up to four gallons (16 litres) in one day

Our single channel commercial generator CS1-100-COM will make 5 gallons to 20 gallons in one day

Our double channel commercial generator CS2-100-COM will make 10 gallons to 40 gallons in one day

Our four channel commercial generator CS4-500 will make 40 gallons to 40 gallons in one day

Our six channel industrial generator CS6-500 will make 50 gallons to 300 gallons in one day.

Zinc: When making colloidal zinc or colloidal copper, put the zinc or copper electrode into the red (Anode) outlet on the generator, then put a silver or steel electrode into the black (Cathode) outlet. Then turn OFF the Alternating Polarity. This will prevent the active zinc or copper electrodes from becoming coated with oxides. With zinc you will see a deposit of white zinc oxide powder as an indicator of good progress.

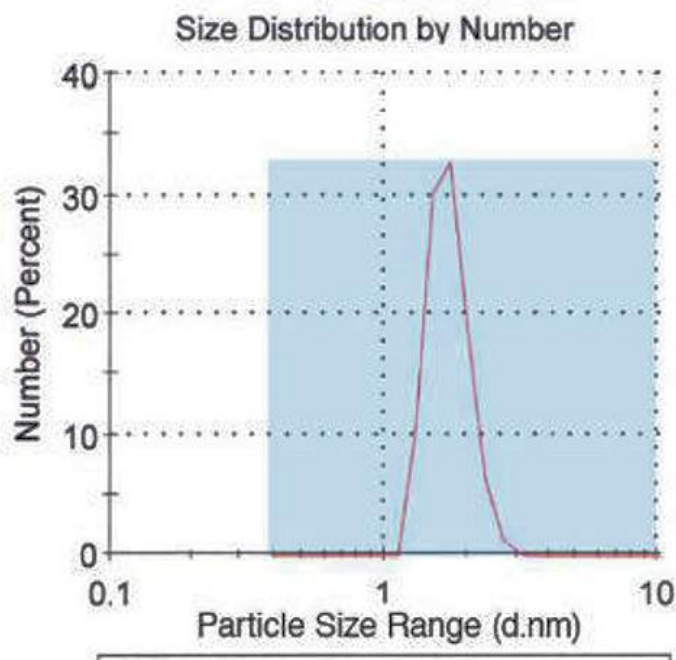
IMPORTANT NEW PUBLICATION: Comparative Analysis of Commercial Colloidal Silver Products. "The results of this evaluation show clearly that 10 of 14 of the most popular colloidal silver products purchased from Amazon were evaluated and found to contain only ionic silver. Considering the extensive scientific research showing major differences between silver ionic and silver nanoparticles in terms of mechanisms of action, efficacy and safety, it is clear that this misrepresentation impacts the consumers. Read the above at www.ncbi.nlm.nih.gov/pmc/articles/PMC7765683/

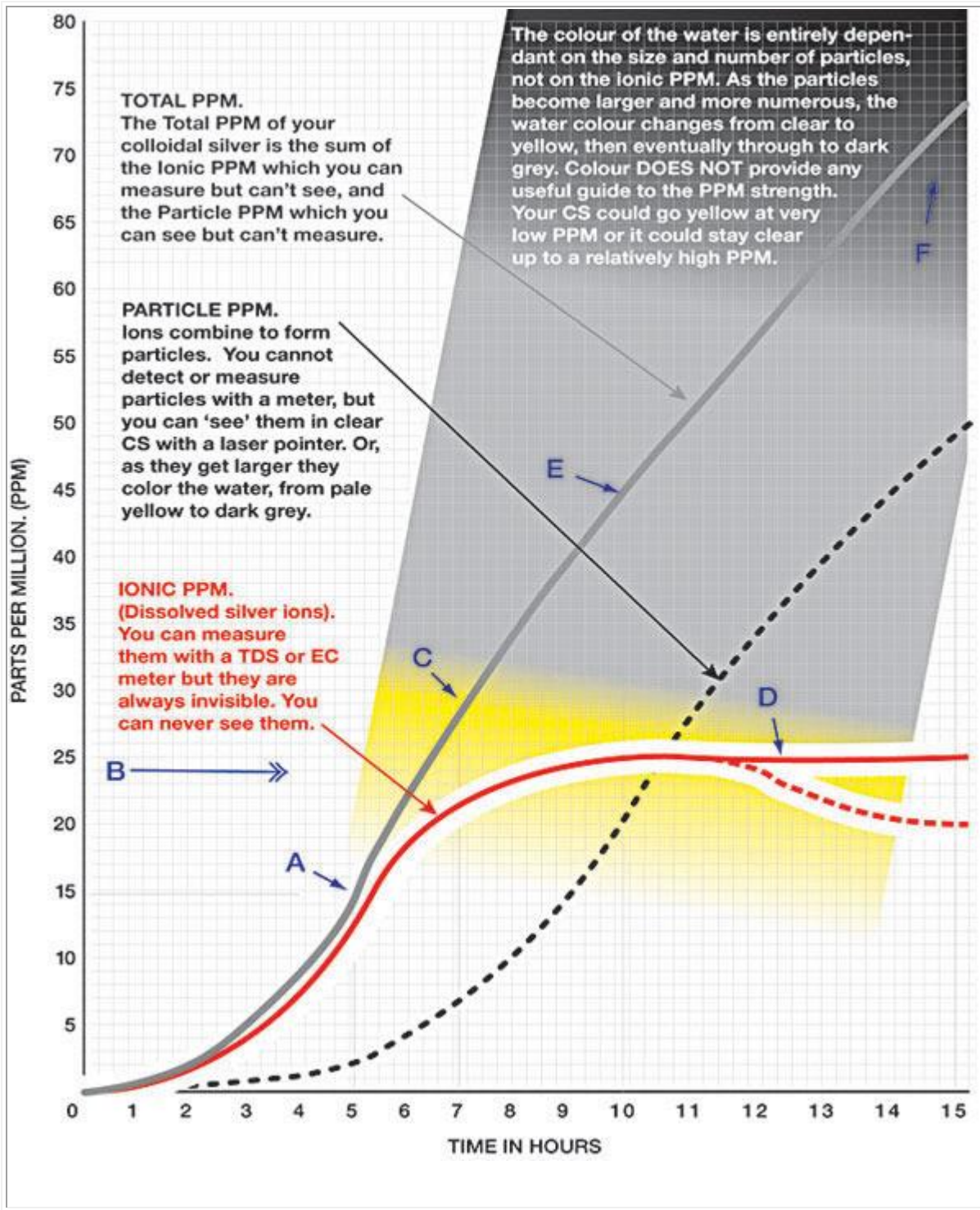
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Particles (the dotted black line) begin to form almost as soon as the power is switched on. The aim is to minimise the particle size (< 20 nm) to be able to cross the blood-brain barrier. This is best done by using a combination of electrical current control, high frequencies and magnetic stirring to create smallest particles slowly (Trickle Charging). The resulting CS water should be clear (after sedimenting) and have a concentration of around 50 ppm for best results. Spray it on your eyes each morning and use it as an under arm deodorant. Inhale it using our nebulizer. Mix it with Aloe Vera gel to prevent cross infection of Herpes virus.

The graph below, from 2018, shows results of Zeta Potential measurements on three of our samples contrasted with four samples from competitors. Our two best samples (red and orange) show ZP peaking at -50.6 and -60.5 and both extending well beyond -100 millivolts.

Combined with our very small 5nm nano-particle size and sacred frequencies, our CS likely excels over all others. Zeta Potential is a measure of quality of a colloid and indicates how powerfully its negatively charged electrons can burn into viruses and other microbes.

Created by: Kissane, Jody
Created at: 3/28/2018 3:52:38 PM

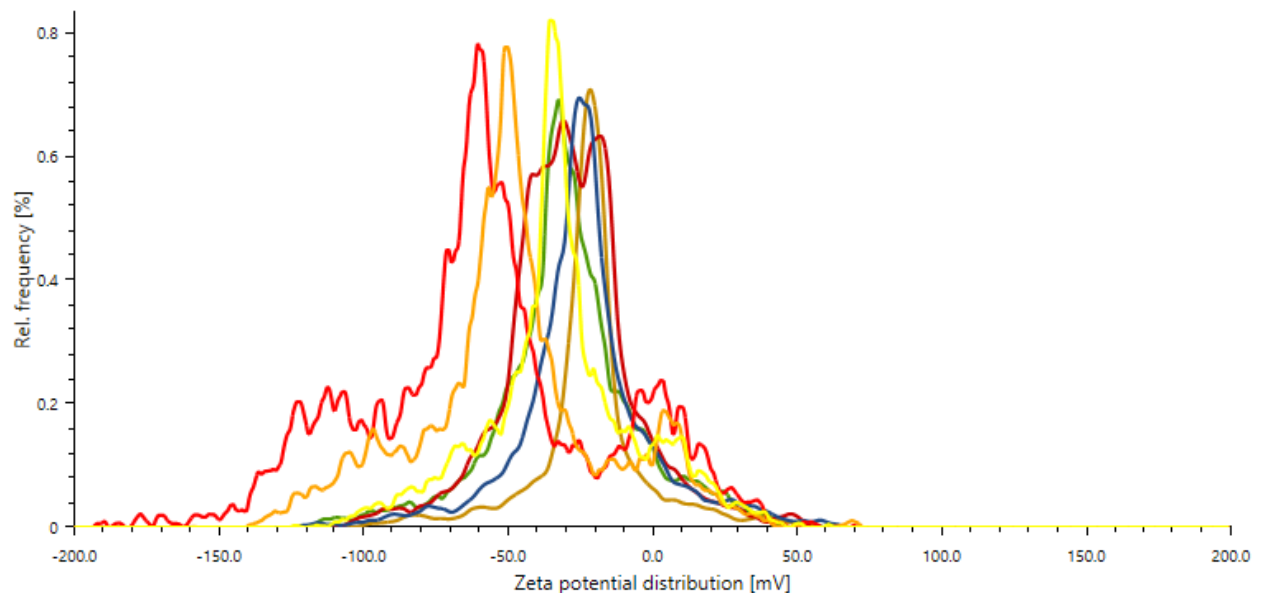
Statistics

Name	Mean zeta potential	Distribution peak	Conductivity	Electrophoretic Mobility
Mean value	-32.8 mV	-36.7 mV	0.095 mS/cm	-2.4703 $\mu\text{m}^*\text{cm}/\text{Vs}$
Standard deviation	16.0 mV	13.9 mV	0.192 mS/cm	1.3146 $\mu\text{m}^*\text{cm}/\text{Vs}$
Rel. standard deviation	48.78 %	37.85 %	202.24 %	53.22 %

Measurements

Name	Temperature [°C]	Processed runs	Mean zeta potential [mV]	Distribution peak [mV]	Conductivity [mS/cm]	Electrophoretic Mobility [$\mu\text{m}^*\text{cm}/\text{Vs}$]
Mark's 37C ZP	20.0	180	-29.0	-32.4	0.034	-2.0575
Thank you silver ZP	20.0	100	-21.0	-21.8	0.030	-1.4881
Sovereign Silver ZP	20.0	100	-17.5	-30.9	0.017	-1.2404
Michael Clark's ZP	20.0	100	-21.4	-25.6	0.011	-1.5162
Colloidal Silver 15 ZP	25.0	260	-61.8	-60.5	0.032	-4.8178
Colloidal Silver (11) 2	25.0	240	-46.3	-50.6	0.011	-3.6065
Colloidal Silver 35	25.0	320	-32.9	-35.4	0.529	-2.5654

Zeta potential distribution



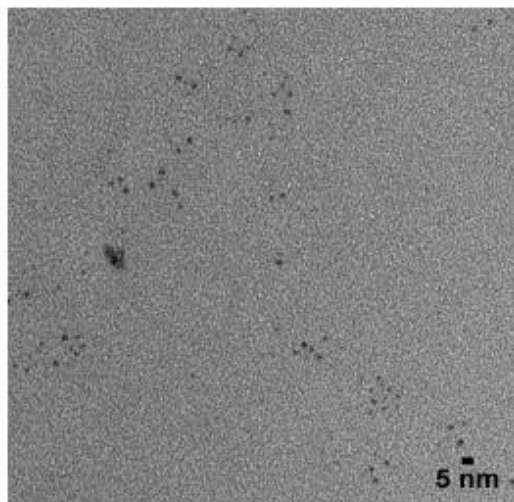
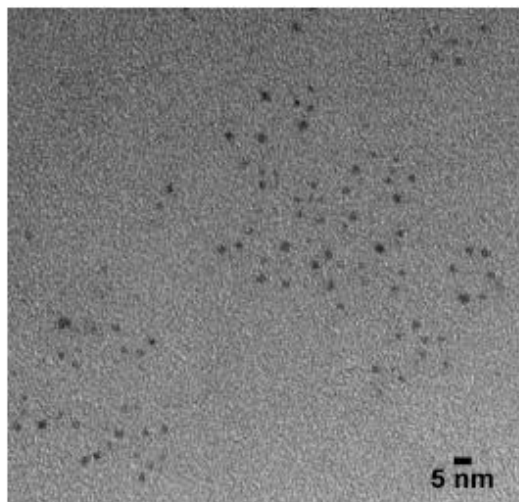
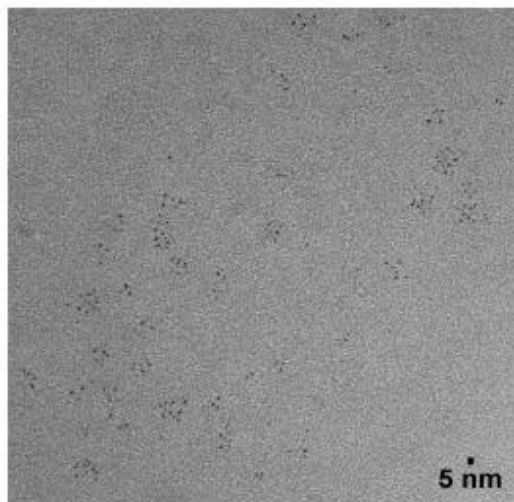
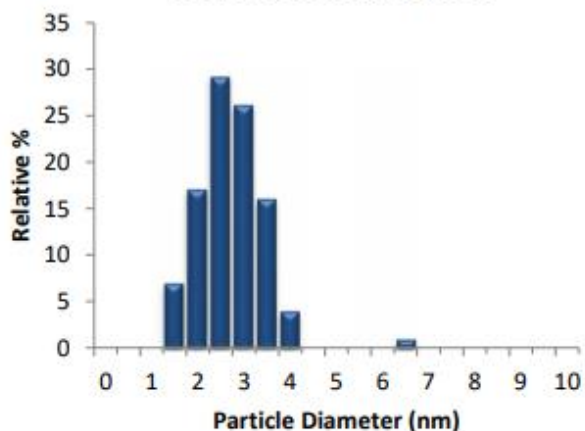
The graph above, from 2018, shows results of Zeta Potential measurements on three of our samples contrasted with four samples from competitors. Our two best samples (red and orange) show ZP peaking at -50.6 and -60.5 and both extending well beyond -100 millivolts.

Combined with our very small 5nm nano-particle size and sacred frequencies, our CS likely excels over all others. Zeta Potential is a measure of quality of a colloid and indicates how powerfully its negatively charged electrons can burn into viruses and other microbes. The TEM pictures below NCX11896 done by Nanocomposix show our nanoparticles to have an average diameter of 2.5 nanometres, which happens to be the diameter of a Coronavirus Spike.

TEM Characterization: A

Diameter (TEM): 2.5 nm
First Standard Deviation: 0.7 nm
Coefficient of Variation: 28.8 %

Size Distribution



Characterization Instrumentation

Diameter and Size Statistics:

JEOL 1010 Transmission Electron Microscope