

## The Art of Producing Electro Colloidal Silver

### WHAT EXACTLY ARE WE TRYING TO GENERATE?

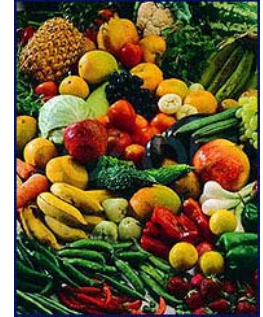
The objective of the process is to produce pure electrified water containing a high percentage of positively charged silver ions - without the formation of any silver compounds.

This is best achieved by using low, gentle direct current (DC) that is controlled.

To emphasize the importance of low, controlled current, one merely has to look at nature. Colloidal minerals as they occur in nature, in fresh fruit and vegetables, are produced slowly, over time, with electrical currents running in the nano or pico amperage range, (i.e. billionths or trillionths of an ampere).

When the synergy has been established during the course of the process, the correct magnetic fields are set up and remain constant.

This ensures the correct molecular structure of the water (Refer Part 3 - Creating Structured Water) in highly organised hexagonal chains that surround the positively charged silver ions. This is critical, as it ensures the bio-availability, stability and efficacy of the end product.



### THE SYNERGY OF KEY FACTORS IN THE PRODUCTION PROCESS

The slower and more gentle the current, the purer the final product. Obviously, one needs a practical time-frame in order to produce electro colloidal silver, but one could, for example, set up a system to run over a week at extremely low current and you would have electro colloidal silver of exceptionally high quality.

Pure silver will not oxidise. That's why it's a noble metal.

#### Diagram:

These factors are all inter-related and critical to the correct production of electro colloidal silver.

Below is a pure silver rod in distilled water, which has been in this jar over the last four years. The initial conductivity reading was 0.5  $\mu\text{S}/\text{cm}$ .

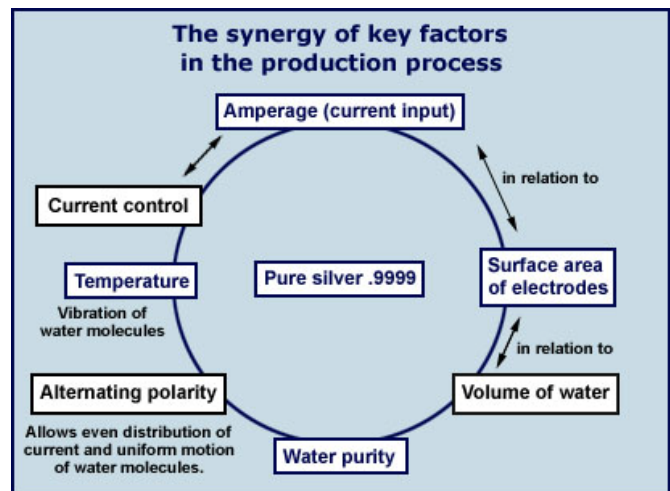


No oxidation has taken place, yet the conductivity is gradually going up. It now reads over 10.0  $\mu\text{S}/\text{cm}$ .

This is an example of the slow art of producing electro colloidal silver. (The boys in the lab can hardly wait to have a sip!)

#### Right:

Rod in a Jar:  
one of the tests in our Research & Development centre



## CORRECTLY PRODUCED ECS CANNOT BE MADE BY MEANS OF ELECTROLYSIS!

It is a well known scientific fact that when you exceed the voltage and current that water molecules can withstand (i.e. electrolysis), the molecules begin to break up - causing excess hydrogen and a low pH. In other words, the solution becomes acidic - and the bonding and compounding of elements takes place.

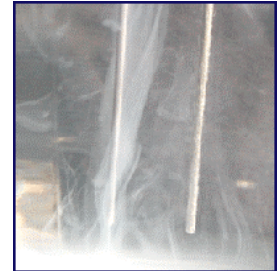
This can easily be identified by the visible formation of clouds at any stage during the process. Hence the discolouration of the water (gold, yellow, brown etc.) This is an immediate indication that the electrical potential of the positively charged silver ion is non-existent.

### What are you seeing when you see "clouds" or "the tyndell effect"?

A silver ion is many thousands of times smaller than a human cell or even a virus. Obviously they are invisible to the naked eye - so, when you consider that it requires a transmission electron microscope using a specialised process to identify these silver ions, what are you seeing when you see clouds???

An example of the electrolysis process commonly used in generator equipment today.

First stage in breakdown of the water's molecular structure.



The stronger the current, the more readily silver will bond with oxygen and other dissolved salts and minerals to form silver compounds as well as clusters of silver atoms and larger silver particles. Excessive current in relation to surface area of water and volume of water (as indicated in this photograph), is an immediate indication of electrolysis taking over.

The water molecules (hydrogen & oxygen) are being broken up - leaving an excess of hydrogen and creating a low (acidic) pH level.

The structuring of the water is incomplete.

Whatever charged silver ions remain, are now vulnerable to outside influences like air, light and magnetic fields.

The electrical potential of the silver ion has been lost.

In an attempt to produce a pure colloid, this process (electrolysis) was used in the early decades of the 20th century, Unfortunately, in those days the process was misunderstood, much as it is today. As a result, stabilizers were introduced such as mild protein and hydrogen peroxide (H<sub>2</sub>O<sub>2</sub>).

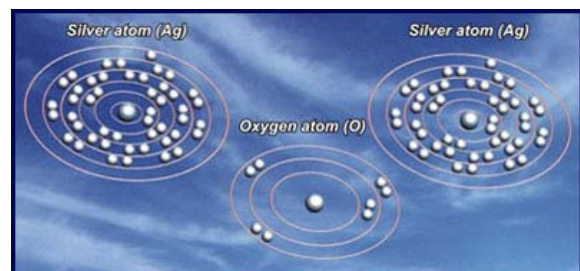
### Note:

Even a 9 volt battery has a capacity output of 500 milliamps (half an ampere)! In relation to the surface area of silver being used in most systems today, this is 499 milliamps too much!

## THE DIFFERENCE BETWEEN A SILVER COMPOUND AND THE POSITIVELY CHARGED SILVER ION

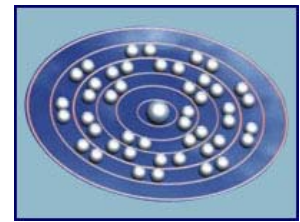
The outer electron field of oxygen (O) has 6 electrons. To reach a desired noble state it would need 2 more electrons, which could be shared with other elements or compounds. When the outer electron field of an atom is not full then other elements or compounds could join onto it and form a different molecule, thus completing their respective outer electron fields. The silver atom has 1 electron in its outer electron field.

Two silver atoms joined with one oxygen atom will create stability within the entire molecule. Excessive electrical current (i.e. electrolysis) takes an oxygen atom (O) from the water (H<sub>2</sub>O) and bonds it to two silver atoms, forming silver oxide, a molecule which has completely different properties to those of electro colloidal silver. This is one example of using excessive current. All types of other compounds will form with whatever dissolved salts, solids and minerals are in the water. Compounds do not carry an electrical charge.



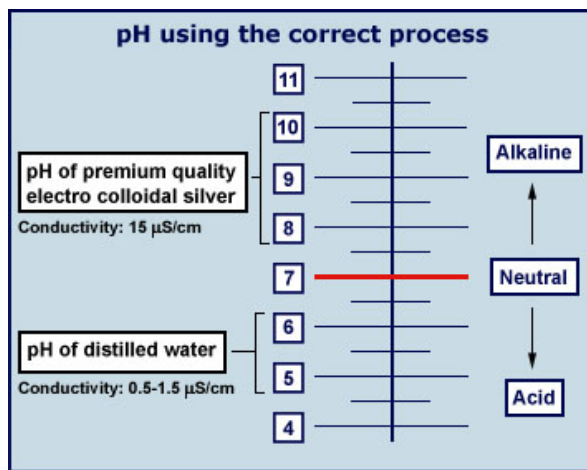
(Fig. 1) Silver Oxide - Ag<sub>2</sub>O

Electro colloidal silver is a positively charged ion of silver. There are no electrons in the outer electron field. The silver atom of fig. 1 has 47 electrons and its proton has a charge of 47, being its positive. The electro colloidal silver atom only has 46 electrons. As a result the overall charge of the atom is positive and the atom has now achieved a noble state. The water is structured around the charged silver ion. It is referred to by research scientists as sacred geometry - and applies to all life. Because the atom's remaining outer electron field is complete, no other atoms or compounds can join onto it. This is why electro colloidal silver acts catalytically in reactions. A catalyst is something that brings about, or causes, a reaction or occurrence without itself actually participating or being consumed.



(Fig. 2) Positively Charged Silver Atom - Ag+1

## DETERMINING THE QUALITY OF ELECTRO COLLOIDAL SILVER BY pH (pH = parts Hydrogen)



As indicated by the chart alongside, premium quality electro colloidal silver will have an alkaline reading. This indicates that the correct current has been used and that electrolysis has NOT taken place.

Electrolysis is the process whereby voltage and current exceed what the water molecules can withstand i.e. they begin to break up, leaving excessive hydrogen in the water.

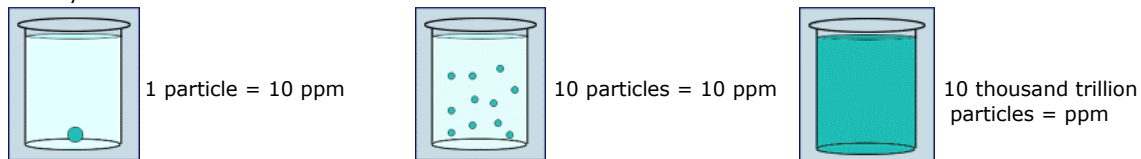
**Note:**  
One cannot use litmus paper for testing the pH of electro colloidal silver. Correct electronic equipment is required.

## AS QUANTITY VS QUALITY: The ppm issue

The apparent misconception surrounding the issue of ppm - and its relation to quality, and efficacy in particular, needs to be clarified.

**Note:**

"ppm" stands for "parts per million". In laboratory terms, this is actually a measurement of weight (mg/litre). This indicates "how much" of a particular mineral or element is in the liquid medium. "ppm" has no bearing on quality, or efficacy whatsoever!



Even though Fig. 1 and Fig. 3 equal the same ppm (mg/litre), it is quite obvious that the product in Fig. 3 will have infinitely more bio-availability and efficacy.

If Fig. 1 measures 100 or even 500 mg/litre, the product in Fig. 3 is still of infinitely higher quality. The only indicator of quality (and efficacy) is the particle size. The end product will remain crystal clear when the production cycle is complete and will remain stable indefinitely.

A true silver colloid will have countless trillions of ultra microscopic silver particles. These are actually altered atoms of silver (i.e. positively charged silver ions) and are typically 0.001 of a micron in diameter - or about four millionths of an inch in size!

It is scientifically impossible to produce the quality of electro colloidal silver in Fig. 3 within a matter of minutes! It requires a slow, gentle process over time.

## CREATING STRUCTURED WATER, THE SECRET OF THE ELECTRO COLLOIDAL SILVER PRODUCTION PROCESS

"The molecular structure of water is the essence of all life" - Dr. Albert Szent-Györgyi, Nobel Prize winner.

When producing electro-colloidal silver correctly, the water goes through a molecular restructuring. This is a key factor in the production process!

As electricity passes through the water, electromagnetic fields are generated. When this process is done correctly, the molecular restructuring of the water takes place. It could be likened to reformatting and de-fragmenting a computer's hard drive. In other words, the water molecules align themselves into very small, highly organised hexagonal chains.

The entire water solution becomes an electromagnetic field where the silver ions are suspended in this three-dimensional network, forming the hexagonal (6-sided) "honey comb" shape, the same structure found in crystal conductors, (Refer: Semi-Conduction).

This process of restructuring is critical as it "locks-in" the electric potential of the charged silver ions and ensures the electromagnetic stability of the end-product, as well as its bio-availability and efficacy.



Left:  
Water Crystal from Saijo Japan

Right:  
Ilo water from Shimanto River



**Sacred Geometry - the key to all life**

## WHAT MAKES SILVER SO UNIQUE FOR STRUCTURING WATER?

One of silver's most amazing properties is that its resistance to conductivity is absolutely minimal - so its electrons flow very easily.

When water needs to draw an electron in order to become structured, it only requires a few pico amps of current. (A pico amp is a trillionth of an amp!)

One could even leave a silver wire or silver coin in pure distilled water for six months and you will have structured electro colloidal silver water - albeit at very low concentration.

It was discovered that the water surrounding cells, the DNA and in fluid tissue is structured, and this crystalline structure of water molecules allows semi-conduction. Strangely enough, in the Western world it was denied and even ridiculed!