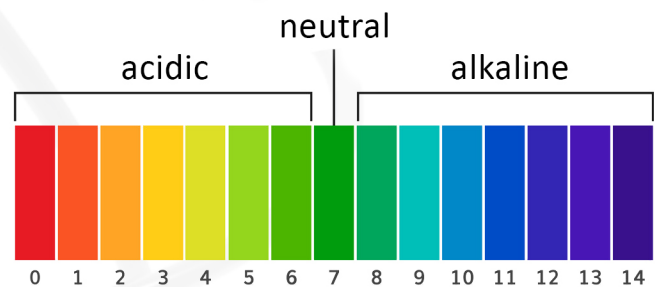
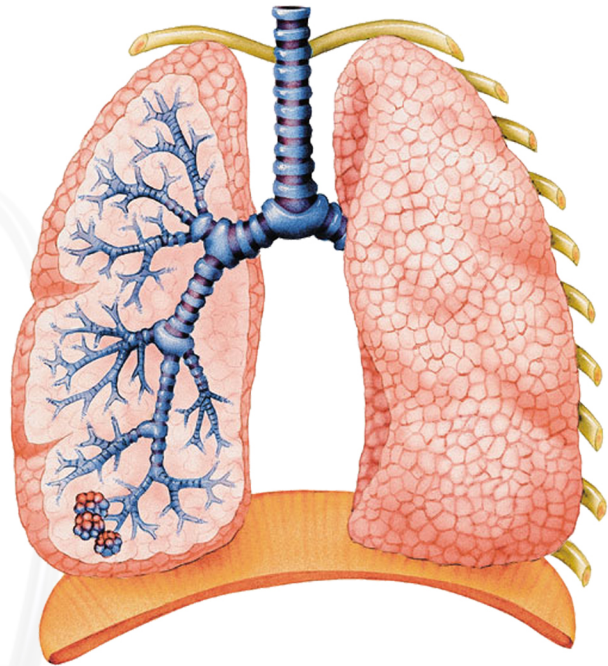


SilverLungs^{pH}

SYSTEM



User Manual

Welcome!

Always follow the preceding instructions carefully to ensure consistent, successful results with your new SilverLungs Generator. With this system, you can easily produce **laboratory-quality ionic and true colloidal silver solutions** and enjoy full independence from commercial silver solution suppliers.

Distilled Water Only!

Do not use well water, spring water, filtered water, or water from gravity-type filtration systems for silver solution production. These water sources are intended only for drinking and **are not pure enough for this process**. Only distilled water may be used, as it consists solely of pure H₂O. If using reverse osmosis (RO) water, it must not exceed **1 PPM** on a water-test meter. Always choose a reliable brand of distilled water and verify that it measures 1 PPM or less before use. Any water reading above 1 PPM is unacceptable and will produce a cloudy, unstable solution that is not recommended for consumption or use.

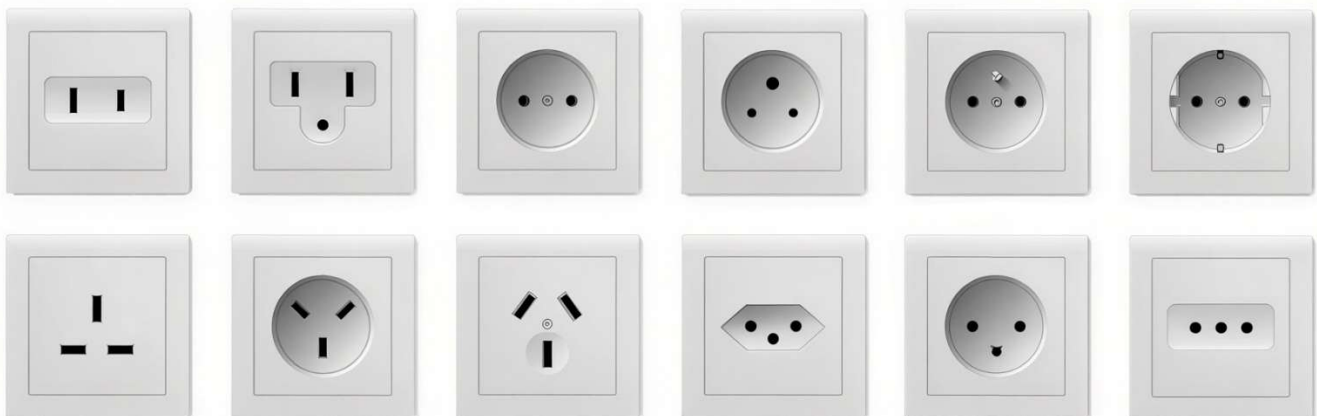
Using Water Distillers — When using a water distiller, always remove any **charcoal or carbon post-filters**, as these can release fine carbon particles into the distilled water that may interact with the ionic silver during production. Most home distillers do not consistently produce water at or below **1 PPM** purity, so it is essential to test the water before use. If your first distillation shows a reading higher than **1 PPM**, simply **re-distill** the same water until the desired purity level of **0–1 PPM** is achieved.

Never Add Salt or Saline to Reduce Production Time! — Do not add **salt, saline**, or any other substances to your distilled water during silver solution production. Doing so will compromise purity and safety, leading to the formation of **undesirable silver compounds** that are **not suggested for consumption or application**.

The only exception is the use of the optional **Accelerating Agent**, available from our online store. This specially formulated additive safely **reduces production time by up to 50%** while preventing the formation of unwanted compounds and ensuring the highest possible quality in every batch. Additionally, the Accelerating Agent helps extend the life of your silver electrodes by reducing the total number of polarity shifts required during electrolysis. You can order it anytime directly from our online store.

The SilverLungs Generator (World Compatible)

The included power adapter is **fully automatic and universally compatible**, designed to operate with all power standards worldwide. However, be aware that using the SilverLungs Generator in a kitchen or area where high-current appliances share the same electrical circuit may result in lower-than-expected silver concentrations. Devices such as refrigerators or electric ovens can cause voltage drops across the circuit, affecting generator performance. While kitchens are often convenient for setup, we recommend moving the generator to **a separate circuit** if you experience **premature shut-offs** or difficulty achieving the desired silver concentration.



Water Test Meter

The **SilverLungs Water Test Meter** comes **pre-calibrated** for precise measurement of water purity and accurate readings of dissolved ionic silver after production. The meter's calibration is factory-locked and **does not require recalibration**, even after battery replacement. **Do not attempt to recalibrate the meter**, as it has been specifically calibrated with the correct silver correction factor for accurate results.

Silver requires a **precise correction factor** to ensure proper measurement, and recalibrating the meter to typical industry standards would cause readings to appear about 20% lower than the true silver concentration.

Operating

The SilverLungs water test meter comes with **3 buttons** on the main face and an LCD screen as illustrated below.



Not Waterproof!

Remember to **handle the water test meter carefully** and avoid accidentally dropping it into the flask, as the meter is **not waterproof**. Please note that water damage is not covered under warranty, so take extra care when using the meter around liquids.

Measuring Silver Concentration (Time Sensitive)

The water test meter is **specifically designed to measure silver ions** in solution, known as **ionic silver**. It cannot detect other forms of silver, such as silver hydroxide, which naturally develops during and after production. For this reason, the most accurate measurement of ionic silver is obtained **immediately after producing a new silver solution**.

Over time, readings on the water test meter will **decrease by up to 33%** as silver ions gradually convert into silver hydroxide through their interaction with the solution's high pH. Since silver hydroxide **cannot be detected by the meter**, a portion of the previously measurable ionic silver becomes hidden from measurement—even though **no actual silver is lost**. The total silver concentration remains the same; however, only part of it remains in a form that the meter can measure. In short, a lower reading on the water test meter simply reflects the **natural conversion process** of ionic silver into silver hydroxide, **not a loss of silver content**.

Storage Containers (Cleaning)

It is essential to **thoroughly rinse your storage container with distilled water** before use. Ionic silver is reactive and can form undesirable silver compounds if it comes into contact with other elements. To prevent this, use only distilled water, free from reactive substances, when pre-cleaning your containers. Do not use spring water, reverse osmosis water, gravity-filtered water, or atmospheric-generated water, as these sources contain impurities that can contaminate a new silver solution once added to the container.

Never use chemicals to clean the glassware!

After cleaning your storage container with distilled water, **wipe down the interior components of the glass applicators** using distilled water and a **fresh, clean paper towel or napkin**. Each applicator contains glass or plastic tubes inside that should also be carefully cleaned with distilled water. To maintain the purity of your silver solution, avoid touching any internal surfaces with your fingers, as this can introduce contaminants. Even trace impurities within the container can degrade or compromise the solution's quality over time. Taking these precautions helps preserve the integrity and effectiveness of your silver solution.

Glassware (Clear and Colored)

If you have chosen **colored storage bottles or applicators**, they provide **UV protection** to help preserve the silver content by shielding it from sunlight. Direct sunlight can cause the reactive silver ions to gradually convert into silver atoms and particles, reducing their ionic activity. For clear containers, which allow you to monitor the important yellow color of colloidal silver solutions, remember that these are also sensitive to UV exposure. To maintain stability, store yellow solutions in a dark location, such as a cabinet, away from sunlight. Always check the yellow color before using or administering colloidal silver. When producing yellow colloidal silver solutions, colorless containers and applicators are recommended, as they make it possible to accurately observe and verify the solution's color—something that isn't possible with tinted or colored containers.

Never consume discolored or cloudy solutions as this indicates contamination.

Proper Use of the Glassware - Never drink directly from a storage bottle, as saliva and salts from the mouth can **degrade** the ionic silver or **destabilize** yellow colloidal silver solutions. When using the eye or ear dropper, avoid letting the glass tube touch the eyes or ears to prevent introducing contaminants back into the solution when the dropper is reinserted into the bottle.

Signs of Contamination - If an ionic silver solution becomes cloudy, or if a yellow colloidal silver solution changes color or turns clear, this indicates contamination and the solution should be discarded immediately. To maintain the integrity of the production process, always **keep a clean workspace** and **handle all equipment carefully** during setup and production.



Silver Concentration

The two power levels on the SilverLungs Generator determine the final **silver concentration** produced. A **10 PPM** solution is ideal for lung vaporizing, though **20 PPM** can also be used. The 20 PPM setting simply produces **twice the concentration** of 10 PPM—for example, ½ teaspoon of 20 PPM equals 1 teaspoon of 10 PPM. There is no incorrect choice between the two settings. Selection simply depends on your desired concentration and the difference in production time. However, when following the “**colloidal silver protocol**” described on Page 11, the **20 PPM setting** must be used, as the lower pH of 10 PPM is not sufficient for proper reaction with the provided **Reducing Agent** during colloidal silver production.

Ionic and Colloidal (Applications)

Based on our experience, **ionic silver solutions** are best suited for the **eyes, ears, skin applications**, and can also be used effectively for **lung targeting**. In contrast, **colloidal silver solutions** are generally preferred for **oral and nasal use**, since silver particles do not form **silver chloride**, a weaker and less desirable silver compound, when taken this way.

True colloidal silver may also be used for **lung delivery** or even **direct bloodstream applications**. For the most versatile option, **50/50 blended solutions**—containing both silver ions and silver particles—offer a balanced, all-purpose approach that performs well across various methods of use.

Ionic

eyes, ears, lungs, topically

Colloidal

oral, nasal, lungs, rectally, vaginally

Dosage and Suggested Use

In accordance with **U.S. federal regulations** governing **dietary supplements**, we are permitted to provide only **general recommendations** regarding the use and administration of silver solutions.

Topically - Dosage is typically not a concern for the eyes, ears and when dressing wounds, cuts, scrapes, abrasions, etc.

Orally - For adults, a **daily oral maintenance dose** of **one tablespoon** of a **20 PPM** solution is suggested. **Children and infants** should take **one teaspoon** of a 20 PPM solution. When consuming orally, it is important to follow the colloidal protocol outlined on Page 11 and to take the solution on an empty stomach. Introducing silver into the complex, ever-changing environment of the stomach—interacting with food and varying acidity—can quickly degrade its quality. Taking the solution on an empty stomach helps preserve its stability and effectiveness.

Vaporizing - For a simple maintenance regimen, we recommend **inhaling the silver solution for 24–48 inhalations per session**, with each session performed every **1–3 days**. Vaporizing the solution is the most effective way to deliver silver into the bloodstream, as it bypasses the harsh digestive environment of the stomach. Direct inhalation into the lungs enables targeted delivery that cannot be matched by oral use, even under ideal conditions. To achieve systemic absorption and optimal respiratory support, we strongly recommend using a vaporizer, which provides efficient and precise delivery of the silver solution.

Nasal - To specifically target the **upper respiratory system**, we recommend using a **nasal sprayer**, administering **2–4 sprays per nostril every 1–3 days**. Alternatively, nasal delivery through a vaporizer may be used, with both 10 PPM and 20 PPM concentrations being suitable. This method provides effective, direct delivery and supports optimal results when addressing respiratory concerns.

Water Preservation - For water preservation, **mix 2 oz of silver solution per 1 gallon of water** to help inhibit microbial growth and maintain water quality.



Step 1: Position Generator

Ensure the SilverLungs Generator is placed on a stable, undisturbed surface to prevent accidental movement during operation. As the silver electrodes produce a **loosely attached layer of silver hydroxide**, any sudden bump or vibration can cause this layer to dislodge, reducing solution quality or requiring extra time for the mixture to **settle** any loosened silver aggregate after production.

Note: Avoid operating the generator in **cold environments** such as basements, sheds, or garages. If the **water temperature falls below 70°F**, the unit can fail to shut off automatically, resulting in an unstable or messy solution.



Step 2: Power OFF Generator

Locate the **slide switch** on the rear of the generator and set it to the **OFF** position. Connect the **48 VDC power adapter** to both the generator and a wall outlet.

It is important to use the **correct voltage adapter** to ensure proper operation and long-term reliability of the unit. If your original power adapter is lost, it must be replaced with a 48V equivalent unit for proper operation.

Once the generator is plugged in, a **solid blue light** will appear, indicating that the generator is in **idle mode** and ready for operation once the desired power level has been selected.



Step 3: Clean Flask

Fill the flask with a small amount of (tested) **distilled water** and use the provided **cleaning brush** to thoroughly scrub the interior. Once cleaned, **empty and discard the water**.

Next, add another small amount of distilled water and **swirl it gently** to remove any remaining impurities, then **discard this rinse water as well**.

Remember: Always ensure your **hands are clean** before preparing a new silver solution to prevent introducing contaminants into the production flask.



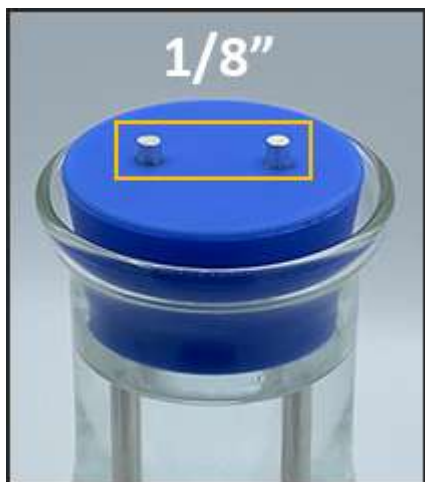
Step 4: Polish Electrodes

Gently polish the electrodes under running tap water using the supplied **100% copper scouring pad**. Always use water during polishing and **avoid dry polishing**.

Once the electrodes are **polished**, wipe them down with **distilled water** and then dry with a **clean paper towel or napkin**.

Tip – Remember to **polish the electrode 'tips'** that extend inside the flask, as these are often overlooked during polishing.

Never use any other type of scrubber on the silver electrodes. 'Scotch-Brite' type scrubbers quickly **grind away** the valuable silver and **drastically reduce** the lifespan of the electrodes!



Step 5: Prepare Stopper and Electrodes

Ensure the **electrodes are straight, polished, and clean**. Carefully insert the **rough ends** of each electrode into the bottom of the stopper, leaving **no more than 1/8-inch protruding**. Remember, the **rounded/smooth ends** of the electrodes must be **submerged in the water**, not the rough ends where the clips attach to the silver electrodes.

Check that the electrodes are **parallel to each other**; if they are misaligned, a slight twist of either electrode will usually correct the positioning and parallel alignment. Before final insertion, **wipe down the polished surfaces once more** to ensure they are completely clean before placing them into the distilled water.



Step 6: Test Water Purity

To ensure a proper silver solution, it is essential to use **absolutely pure water**. Never assume water is pure enough without testing.

Even if your store-bought distilled water is labeled as **distilled** or has been **self-distilled**, that does not guarantee the required purity for production. Using a **water test meter**, verify that the water measures **no higher than 1 PPM** as this is critical for producing a high-quality silver solution.

Note: If the solution becomes **cloudy during production**, it is a strong indication of contamination or the use of water that did not meet true purity standards. **Discard, replace and start over.**

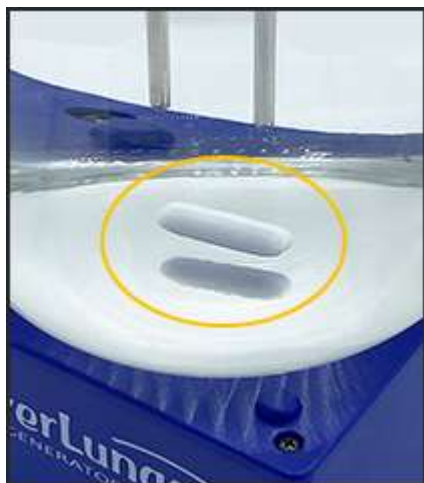


Step 7: Add Water

Fill the flask with **pre-tested distilled water**, leaving about **1 inch of space from the top**. Insert the **stopper and electrodes**, ensuring there is roughly a **1/8-inch air gap** achieved between the bottom of the stopper and the water surface.

Next, temporarily remove the stopper and electrodes and place them on a **clean surface**, such as a fresh paper towel or napkin.

Important: Maintaining the **correct water level** is essential for proper generator operation. An air gap larger than **1/8-inch** can **disable the automatic shut-off feature** and result in a cloudy, unusable solution from an 'over-run' of the process.



Step 8: Position Magnetic Stirring Bar

With the generator **powered off**, place the **production flask** on top of the unit. Make sure the **stirring bar** has been cleaned with distilled water, and carefully place it into the flask **without touching it with your fingers**. Use a **clean paper towel or napkin** to insulate your fingers, making it easy to deposit the magnetic stirring bar.

Once the cleaned stirring bar is inside the flask, ensure it is **magnetically centered at the bottom**. If it settles off to one side, gently adjust the flask's position until the stirring bar aligns with the magnetic center of the flask.



Step 9: Insert Stopper and Electrodes

Gently **insert the stopper and electrodes** into the flask, applying only **light pressure** to create a gentle seal. Avoid pressing too firmly, as this can make removal difficult and can dislodge any **loose silver accumulation** from the electrodes into the solution. If excess silver or particulate is released during removal, **allow it to gravity settle to the bottom** before transferring the finished silver solution into your storage container.

Tip: You can optionally orient the rubber stopper **upside down** during production for an easy, **disruption-free extraction** once complete. This method allows the stopper to rest lightly on top of the flask instead of being tightly pressed into the opening and does **not affect production** in any way—making this is a great option.



Step 10: Attach Electrode Clamps

Attach the **electrical clips** to the **silver electrodes** in any order.

As shown in the image to the left, ensure that **only 1/8 inch of silver** extends above the top of the rubber stopper so that as much of the silver electrodes remain **submerged in the water**.

Remember: It is essential to maintain no more than a **1/8-inch air gap** in the flask and **no more than 1/8 inch of exposed silver** protruding from the top of the rubber stopper.

An air gap that is too large or excessive electrode exposure can disable the automatic shut-off feature and produce a cloudy, undesirable silver solution.



Step 11: Select a Power Level and Begin!

The generator offers **two power levels** for solution production. The **HIGH** setting produces concentrations in the **20 PPM** range, while the **LOW** setting yields approximately **10 PPM**. Production time varies depending on the **initial water purity**.

Without the optional **Accelerating Agent**, the LOW setting will produce a 10 PPM solution in about **100 minutes**, and the HIGH setting will generate a 20 PPM solution in roughly **150 minutes**.

After selecting your desired power level, the **magnetic stirring bar** will begin to spin, and the **front panel light** will change to **green or red**, corresponding to the chosen concentration setting.

When the solution reaches the targeted 10 PPM or 20 PPM concentration, the generator will **automatically shut off**. The stirring bar will stop, and the front panel light will begin **flashing blue**, indicating that the production process is complete. You can now optionally verify the PPM concentration and visual quality of the finished silver solution.

Remember: The generator does not operate on a timer. Its **intelligent circuitry** continuously measures the **actual silver concentration** and automatically shuts off once the selected **10 PPM or 20 PPM** level is reached.

When removing the **stopper**, avoid pulling it straight out (unless it was optionally orientated in the upside-down position). Instead, **gently twist it in a circular motion** while slowly easing it free.



Step 12: Analyze and Measure

Analyze: If your kit includes a laser pointer, use it to shine the beam through the flask and observe the solution. A few small, scattered bright spots are normal and may simply be dust or lint. This step helps confirm that the solution is mostly clear, with only minimal visible reflections. Ideally, the less the laser beam is visible through the water, the better—indicating that no large particles were produced during the process.

In a 10 PPM solution, the laser beam may appear very faint or nearly invisible, while a 20 PPM solution will show a more noticeable beam due to its higher silver oxide concentration—a normal byproduct of high-pH ionic silver solutions such as produced by the SilverLungs generator.

To verify the actual silver concentration, turn on the water test meter (if included in your kit) and gently insert it into the solution until a reading appears. Once finished, wipe the meter clean to prevent contamination from affecting future readings.

Measure: For a solution produced using the 10 PPM setting, the expected reading should be right around 10 PPM. For a solution produced using the 20 PPM setting, the expected reading should be close to 20 PPM.

Finishing Up: If your solution shows only a few scattered bright spots when viewed with the laser, and its concentration has been verified with the water test meter, congratulations—you have successfully completed the proper production of a new ionic silver solution!

Suggestion: After taking the final measurement, it is best not to reinsert the stopper or electrodes into the finished solution. Instead, dispense the ionic silver into pre-cleaned storage bottles (Page 3) or proceed to the **"Colloidal Silver Protocol" (Page 11)** if you wish to convert it into a colloidal silver solution.

Tips: When your production session is complete, you can reinsert the **stopper and electrodes** into the flask for storage.

It is also wise to **leave the stirring bar inside** to prevent misplacing it, as it is very small and easy to lose. After each use, **wipe the stirring bar clean** to prevent the buildup of **silver oxide**, which can settle into microscopic surface marks and make the bar appear cracked. For deeper cleaning, you can **soak the stirring bar** in standard brown-bottle **hydrogen peroxide** (or a higher concentration if available) to chemically remove accumulated silver oxide deposits over time.

Understanding PPM Measurements

It is important to understand that when measuring a silver solution, **only silver ions** are detectable using a **water test meter**.

If you have converted your **ionic silver solution** into a **colloidal silver solution** (see Page 11), expect a **significant drop** in the measured PPM value. This is normal, as colloidal silver contains non-measurable silver particles, causing the initial higher ionic reading to decrease once conversion occurs.

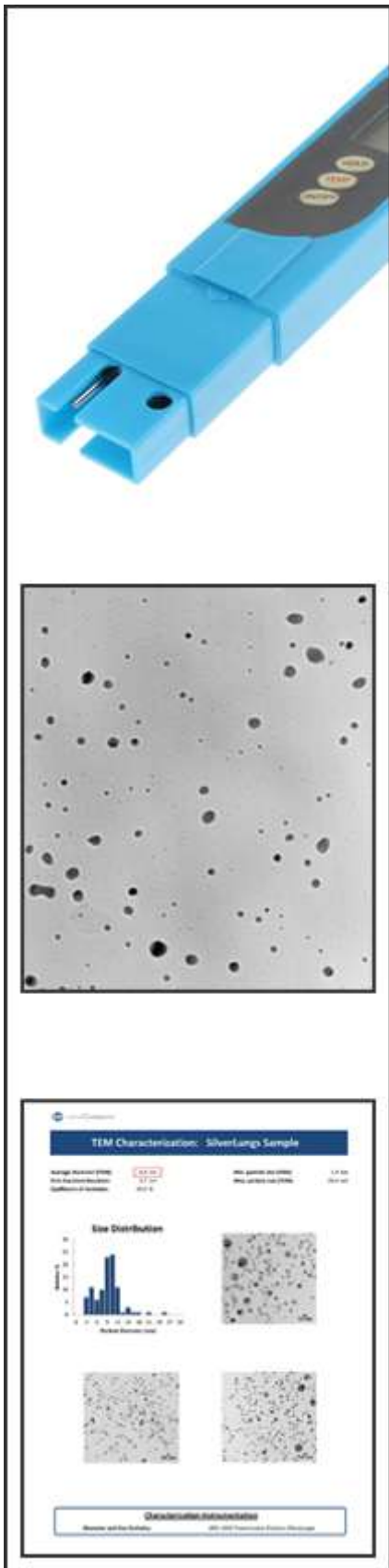
When using the LOW power level, the final reading should register around 10 PPM, while the HIGH power level should measure around 20 PPM immediately after production.

Over time, you may notice a **gradual decrease in the measurable PPM**—typically within a week—if the solution is not converted to colloidal silver. This occurs as ionic silver reacts with free hydroxyl ions in the water, forming non-measurable silver hydroxide. No actual silver is lost in this process; the measurable silver simply transitions into this non-ionic form.

For the most accurate silver concentration, take measurements **immediately after production** rather than hours or days later, as readings taken later may not reflect the total silver content.

When following the **true colloidal silver protocol** (Page 11), the resulting **particle size** averages **8–9 nanometers** in diameter, verified through **Transmission Electron Microscopy (TEM)** analysis.

Assuming your silver solutions are **stored properly**—in a dark, contamination-free environment and protected from direct sunlight—they should remain stable and ready for use for at least six months.



The Colloidal and 50/50 (Protocol)

Described - True colloidal silver is characterized by a silver solution that predominantly consists of silver particles rather than silver ions.

Step by Step Instructions

1 - To ensure proper conversion of silver ions into silver particles, always create new solutions using the **HIGH** setting. The **LOW** setting produces a lower pH that prevents full conversion. Using the **HIGH** setting provides the optimal conditions for forming stable silver nanoparticles and achieving a complete, high-quality colloidal silver solution.

2 - After completing a new ionic silver solution on the **HIGH (20 PPM)** setting, disconnect both clips from the silver electrodes, then gently remove the stopper and electrodes—leaving the stirring bar in the flask. The stopper and electrodes are no longer needed beyond this stage.

3 - With the flask still on the generator, switch the generator **OFF**, then back **ON** using either the **LOW** or **HIGH** setting. This reactivates the stirring mechanism and prepares the solution for mixing in the Reducing Agent.

4a (colloidal) - Slowly add **6 drops** of the Reducing Agent to the stirring solution. This begins the conversion process that produces a true colloidal silver solution.

4b (50/50) - To create a 50/50 blend of ionic and colloidal silver, add just **1 drop** of the Reducing Agent to the stirring solution.

After adding the Reducing Agent, the solution will gradually shift from clear to a **yellow tint**, depending on the amount used. Allow it to stir for a few minutes, then turn the generator **OFF** to stop stirring. The conversion process will complete in approximately **4–8 hours** for both 50/50 and full colloidal solutions.

pH Levels | During the conversion of an ionic silver solution into a 50/50 or fully colloidal solution, the initial pH of around 10 gradually drops to approximately 7–8 within 12–24 hours. Only ionic silver solutions made **without** a Reducing Agent will remain strongly alkaline. This natural decrease in pH is expected and serves as a clear indication that the solution has successfully converted from primarily ionic silver to a true colloidal silver composition.

The Importance of Yellow - Always check that your colloidal silver retains its original yellow color before use. Any change in color—such as red, green, blue, pink, gray, or eventual color loss—indicating contamination or degradation, often caused by impurities in the storage bottle. If a yellow colloidal solution fades or an ionic solution becomes cloudy, it should be discarded. Store solutions in **clear containers** to easily monitor their color and clarity over time.

Never Freeze! - Avoid leaving colloidal silver solutions in your vehicle or exposing them to freezing temperatures, as freezing causes the suspended silver particles to clump together into larger aggregates. Once this happens, the solution loses its characteristic color and stability, and the particles settle to the bottom—rendering the colloidal silver unusable.

Clear Storage Containers - To effectively monitor the color and clarity of your silver solutions, always use clear storage containers. Colored containers make it difficult to assess the silver solution's state and quality due to limited visibility.

Note - As your solution transitions from ionic to colloidal, you will notice a significant drop in the reading on your water-test meter — often by as much as 75% over time. This reduction is a direct result of the conversion process. During this stage, the silver content shifts from being mostly ionic (measurable) to primarily metallic particulate (a non-measurable form.) The drop in the meter reading is expected and desirable — being clear evidence that your silver has successfully transformed into a true colloidal silver solution, where much of the ionic silver has been converted into stable, suspended silver nano particles.

Automatic Shut-Off (Troubleshooting)

The following troubleshooting checklist is provided to help identify the cause of a **failed automatic shut-off** during silver solution production. If the **run time exceeds three hours** or the **solution appears cloudy**, review these steps to ensure that nothing was overlooked during setup. Allow the generator up to three hours to complete its cycle before assuming a shut-off failure, as production times can vary depending on initial water purity, especially when using the HIGH (20 PPM) setting.

Reminder: The generator operates using intelligent circuitry, **not a timer**. This technology continuously measures the amount of **actively dissolving silver** in the solution to determine when the desired PPM concentration has been reached. Once that target level is achieved, the generator automatically stops production, ensuring precise and efficient results without requiring manual intervention.

Troubleshooting Steps

1 – Water Too Cold: For the generator's automatic shut-off to function correctly, **the water temperature must remain above 70°F**. Avoid operating the generator outdoors during colder months or in unheated environments such as garages, basements, or work sheds, as these locations may not maintain adequate temperature. Always consider the ambient conditions and select a suitable, temperature-controlled area to ensure optimal generator performance.

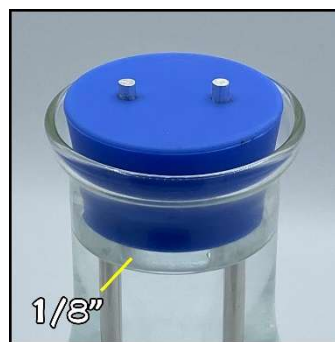
2 – Too Little Water in the Flask: It is essential to maintain an **air gap no greater than 1/8 inch** between the top of the water line and the bottom of the stopper, as shown below. If the air gap is too large, the generator can **fail to shut off automatically** or experience an **extended run time**, resulting in a **cloudy, undesirable solution** that should be discarded. Maintaining the correct water level ensures accurate operation and consistent solution quality.

3 – Bent Electrodes: Both silver electrodes must remain **straight and parallel** at all times. If one or both become **bent**, the generator may either shut off prematurely, resulting in a lower silver concentration, or fail to shut off completely. As a simple check, ensure that each electrode is straight enough to roll smoothly on a flat surface. If your electrodes are bent beyond repair, please **contact us for assistance and replacement guidance**.

info@silverlungs.com | 1-888-444-1620

4 – Wasted Silver: If too much **silver protrudes above the stopper** where the clips attach, it can cause issues similar to having too little water in the flask, preventing the generator from reaching its automatic shut-off point. To ensure proper operation, make sure that **no more than 1/8 inch** of silver extends from the top of the stopper, as shown below. Maintaining this correct exposure helps ensure accurate readings and consistent performance.

5 – Untested Water: If the water used for production has **not been tested and confirmed** to have a purity of **1 PPM or lower**, impurities in the water can bind with silver ions during the production process. This often leads to a delayed automatic shut-off and the formation of a cloudy solution. **Testing water purity is not optional**—it is essential to verify that the initial purity reading is 1 PPM or less before beginning production to ensure proper generator performance and solution quality.



Silver Solutions (Notes & Precautions)

- Never refrigerate or allow a silver solution to freeze!
- Never drink from a silver solution bottle as this will contaminate the solution.
- Avoid extended exposure to direct sunlight and UV rays.
- Drink on an empty stomach when consuming orally.
- Avoid placing **paper towels, cotton balls, or any other materials** over the opening of a silver solution when applying it. Instead, **pour the solution directly** onto the desired surface or chosen applicator. This approach ensures a controlled, hygienic application and helps prevent contamination of the solution.

Ionic

Before administering the ionic silver solution, carefully **inspect it for any signs of cloudiness**. A cloudy appearance may indicate **contamination** and render the solution unsuitable for use. Always ensure the solution is clear and free of visible particles before administration.

Colloidal

Always **check that your colloidal or 50/50 blended silver solution retains its clear yellow color** before use. Avoid consuming any solution that appears cloudy or has shifted in color, as this indicates contamination or instability. If a once-yellow colloidal silver solution develops a different hue, it signifies particle growth and is **no longer suitable for administration**.

50/50 Blended

Always ensure the 50/50 blended silver solution **maintains its light yellow color** before use. Avoid consuming any **color-shifted or cloudy colloidal silver solution**, as this indicates contamination or instability within the colloidal portion. If a previously yellow silver solution develops any other color, it signifies particle growth and should be considered **unsuitable for administration**.

Why is true colloidal silver yellow?

The **yellow color** seen in a colloidal silver solution results from the **selective absorption of the violet-purple region** of the light spectrum by **silver nanoparticles**. This optical behavior, known as **plasmon absorption resonance**, is a natural phenomenon in the physics of silver nanoparticles suspended in water. Because these particles **reflect all other wavelengths**, the solution appears **yellow** in the absence of purple light.

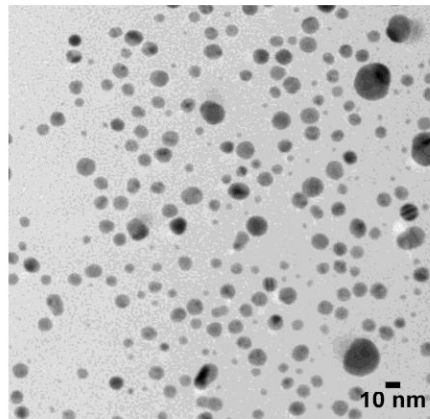
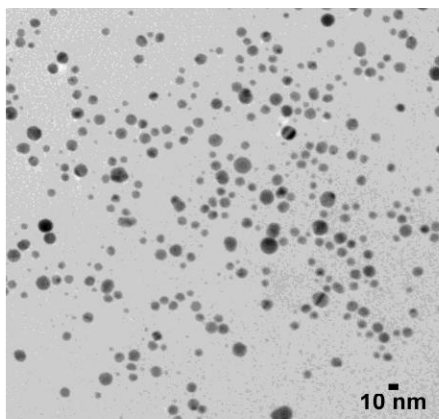
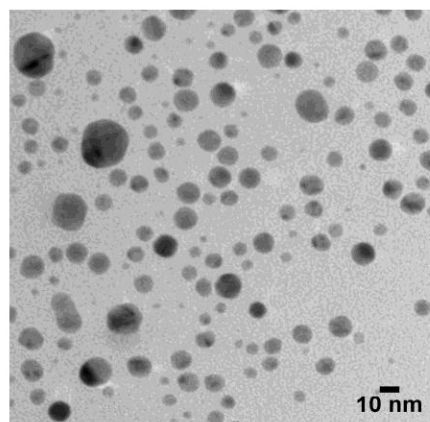
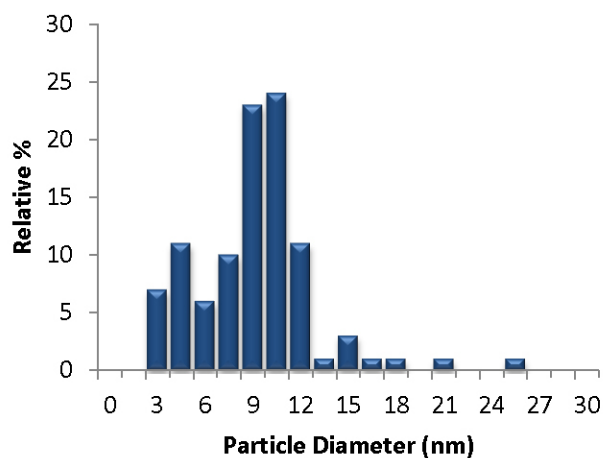
Claims that true colloidal silver must always be colorless are often made by those **not producing genuine colloidal solutions** according to proper scientific definitions. In reality, colorless silver solutions are more accurately identified as **ionic silver solutions**, though they are **seldom properly labeled as such**.



TEM: Particle Size Analysis

Diameter (TEM):	8.4 nm	Min. particle size (TEM):	1.9 nm
First Standard Deviation:	3.7 nm	Max. particle size (TEM):	25.4 nm
Coefficient of Variation:	44.5 %		

Size Distribution



Characterization Instrumentation

Diameter and Size Statistics:

JEOL 1010 Transmission Electron Microscope

SilverLungs (Common Questions)

Why Silver? - Backed by more than a century of research, silver has been shown in numerous studies to neutralize pathogens, viruses, and bacteria within minutes. Its potent anti-fungal, anti-germicidal, anti-bacterial, and anti-viral properties give it a wide range of uses. Silver-infused bandages remain common in hospital burn units, preventing infection and reducing scarring. Ionic silver also supports skin regeneration, helping damaged cells transform into healthy ones and aiding the body's natural healing process.

What is Colloidal Silver? - Colloidal silver is commonly described as a suspension of extremely small silver particles and silver ions evenly dispersed in a water-based solution. However, a more accurate definition distinguishes between the two: colloidal silver consists primarily of silver particles, while ionic silver is composed mostly of silver ions. The size of these particles and ions is measured in nanometers, giving rise to the term "nanosilver." It is important to note that nano refers only to a size range, not to a different or advanced type of silver. The term "nanosilver" has become popular in marketing but can be misleading, as it suggests a completely new form of silver solution when it simply describes particle scale. To grasp just how small these particles are, imagine enlarging the diameter of a single human hair to one mile wide — at that scale, the individual silver particles would be about the size of fine grains of sand.

What is Nanosilver? - Amid the recent surge of interest in "nanosilver," it may come as a surprise to learn that the term is simply a modern marketing label for what has long been known as colloidal or ionic silver. While "nanosilver" might sound new and sophisticated, it is essentially the same material, defined by the extremely small particle size characteristic of colloidal silver. The current hype has fostered a sense of novelty, but in truth, nanosilver is simply the familiar, time-tested colloidal silver that has been valued for its unique properties for many years.

What is PPM? - The term "parts per million" (PPM) is a unit of measurement used to describe very small concentrations of one substance dispersed within another. When referring to silver PPM, it simply indicates the amount of silver present in the solution—not the type or size of the particles. A common misconception is that the difference between 10 PPM and 20 PPM relates to particle type or size. In reality, the distinction lies only in the total concentration of silver within the solution. To illustrate, consider an analogy with aspirin: a 500 mg tablet and a 1000 mg tablet contain the same compound, differing only in quantity.

What Kind of Silver is Produced?

- **Silver Ions** - A silver ion is a single silver atom (Ag) that has lost one electron, resulting in a positively charged species. This removal of an electron from a neutral atom produces an electropositive ion (Ag^+), which readily interacts with other elements and compounds in solution. In aqueous systems, silver ions are hydrated—that is, surrounded by a shell of water molecules—stabilizing them within the liquid medium.

- **Silver Atoms** - A silver atom represents the fundamental, electrically neutral unit of silver. Under certain conditions, these atoms can cluster together through metallic bonding in a process known as agglomeration or nucleation. When these atomic clusters remain suspended and evenly dispersed in a liquid, they form what is scientifically defined as a colloidal suspension.

- **Silver Particles (Colloids)** - Silver particles—often referred to as colloids—are composed of numerous metallic silver atoms (Ag^0) bound together. The size of these particles can vary widely, typically in the nanometer range, and is a key factor influencing their optical, chemical, and biological properties. In general, smaller particles are considered more desirable, as they provide a higher surface area-to-volume ratio, enhancing stability and reactivity on site.

- **Silver Oxide and Hydroxide Compounds** - During the electrolytic production process, minor amounts of silver oxide (Ag_2O) and silver hydroxide (AgOH) can form as secondary byproducts, particularly in high-pH aqueous environments. These compounds may exist transiently alongside free silver ions. When ingested or otherwise exposed to a physiological environment, silver oxide and hydroxide readily dissociate, releasing free silver ions (Ag^+) back into solution. Because these compounds ultimately liberate free ionic silver, a solution containing silver ions, silver oxide, or silver hydroxide is scientifically classified as an ionic silver solution, with the active species being the silver ion (Ag^+) itself.

Is True Colloidal Silver Clear or Yellow? - Authentic colloidal silver naturally appears yellow due to the selective absorption of violet and purple light by suspended silver nanoparticles. The remaining wavelengths produce the characteristic yellow hue through a process called plasmon resonance, in which conduction electrons in metallic nanoparticles oscillate with specific light frequencies. The exact shade depends on particle size, shape, and concentration. In contrast, colorless solutions contain only dissolved silver ions (Ag^+), not true colloidal particles—so claims that genuine colloidal silver must be colorless arise from a misunderstanding of basic optics.

What Really Happened with “The Blue Man”? - Paul Karason, known as “The Blue Man,” developed argyria—a blue-gray skin discoloration—after a critical mistake in his homemade silver process. To speed production, he added table salt (sodium chloride) to distilled water during electrolysis, which should never be done when making pure ionic or colloidal silver. The chloride ions reacted with silver to form silver chloride (AgCl), a chemically unstable compound that accumulated in his tissues over time. It’s important to note that silver chloride is entirely different from true ionic or colloidal silver. Properly produced solutions made without salt or impurities have never been scientifically linked to verified cases of argyria.

Does SilverLungs Use Constant Current? - The term “constant current” is widely used in the colloidal silver industry but often misunderstood. Many assume it means the electrical current stays steady throughout electrolysis, when in fact that constancy lasts for only about 15% of the cycle. A more accurate term is “current limiting,” which restricts the maximum current without keeping it truly constant. As electrolysis continues and water conductivity rises with ionic content, current naturally fluctuates within those limits. The SilverLungs Generator is precisely engineered on this principle of current limitation—producing solutions more efficiently than traditional constant-current systems while preventing instability and oversized particle formation. To achieve this, the SilverLungs Generator incorporates several key technologies:

- **Large-surface-area silver electrodes**, which ensure uniform ion release and improved current distribution.
- A **magnetic stirring system** that maintains consistent dispersion of ions and nanoparticles during electrolysis.
- **Dynamic polarity reversal**, periodically alternating electrode charges at ever-increasing intervals to prevent uneven erosion and buildup.
- An **automatic shut-off mechanism** that terminates production precisely at the target concentration.

These features keep the electrical current below critical electro-chemical thresholds, preventing secondary reactions that can produce undesirable large silver particulates. The result is a stable, high-purity ionic solution formed under strictly controlled electrochemical conditions—safely, consistently, and efficiently.

What Is the Shelf-Life of a Silver Solution? - The shelf-life of a silver solution is primarily determined by storage conditions and the quality of the container. When stored in a dark, contamination-free environment and sealed in an appropriate non-reactive container, the solution will typically remain stable and suspended for at least six months, and often considerably longer. Protecting the solution from UV light and environmental impurities is critical to maintaining its clarity and effectiveness.

How Fast Is the Generator? - Without the optional Accelerating Agent, the SilverLungs Generator produces a 10 PPM solution in approximately 100 minutes, and a 20 PPM solution in about 150 minutes. When the Accelerating Agent is used, production times are reduced by roughly 50%, allowing for significantly faster generation while maintaining the same purity and concentration standards.

Which PPM Is Best? - Selecting the appropriate PPM concentration depends on the intended application and personal preference. The key distinction between the LOW (10 PPM) and HIGH (20 PPM) power levels lies strictly in the total silver concentration, not in the type or size of silver particles produced. Achieving a 10 PPM solution compared to a 20 PPM solution requires roughly one additional hour of production time. Both concentrations yield equally pure, high-quality ionic silver solutions—the difference is simply the amount of silver present per unit of water.

How Long Do the Silver Electrodes Last? - The SilverLungs electrodes are designed for exceptional longevity, even under frequent or extended use. To maintain their integrity and extend their lifespan, it is imperative to clean them only with the supplied 100% copper polishing pad. While other abrasive scrubbers may seem suitable, they are too coarse and typically made from materials harder than silver, which can quickly remove excessive amounts of valuable (wasted) silver—immeasurably more than is used during normal silver production. Because copper and silver share similar metallic hardness, the copper pad provides an ideal gentle polishing action. This allows the electrodes to regain a smooth, reflective finish without causing abrasion, scuffing, or unnecessary material loss. Consistent use of the 100% copper pad ensures minimal silver wastage and preserves their longevity and performance.

Are the Electrodes Pure? - Yes. Each SilverLungs electrode is manufactured from 99.99% pure elemental silver (Ag) to guarantee the production of high-purity, laboratory-grade solutions. The electrodes are precisely machined and polished, resulting in a smooth, uniform surface that promotes even electrical distribution during electrolysis. Their large physical size and surface area provide consistent contact with the water, ensuring stable output, long service life, and optimal production efficiency over time.

Why Use a Laser Pointer? - A red laser pointer serves as a powerful tool for analyzing the clarity and quality of a silver solution. When the red laser beam passes through the solution, any undesirable large silver particulates will scatter the light, appearing as visible bright spots or streaks. A clean, high-quality solution will show little to no visible beam path. We specifically recommend a red laser because its wavelength (around 650 nm) provides superior discrimination between pure solutions and those containing larger silver particles. In contrast, a green laser (around 532 nm) is too sensitive—it will display a visible beam even in pure distilled water, often producing false indications of contamination. Thus, a red laser offers a far more accurate and reliable assessment of true colloidal and ionic silver solution quality.

What Is Magnetic Stirring? - The SilverLungs Generator utilizes an advanced magnetic stirring system specifically engineered to operate within a sealed flask, thereby protecting the solution from airborne contaminants throughout the production process. This enclosed design maintains the purity and consistency of the silver solution. Unlike turbulent stirring systems such as air bubblers—which can introduce impurities and dislodge excess silver hydroxide buildup—the magnetic stirrer provides a smooth, controlled circulation of water. This ensures even distribution of ions, prevents localized concentrations, and supports a cleaner, more uniform electrochemical reaction.

What Is Dynamic Polarity Reversal? - Traditional polarity reversal alternates the positive and negative charges between electrodes at fixed intervals to promote even wear and uniform ion release. The SilverLungs Generator employs a more sophisticated approach known as dynamic polarity reversal, where the timing of polarity changes occurs at variable, continuously adapting intervals rather than at static, pre-set times. This dynamic approach prevents the accumulation of silver deposits on the electrodes and minimizes the formation of large silver aggregates or hydroxide films. The result is greater electrode efficiency, longer lifespan, and a more stable, higher-quality output compared to fixed-interval systems.

Why Use a Water Test Meter? - The digital water test meter included with the SilverLungs system plays an essential role in ensuring process precision and product quality. It accurately measures both the initial purity of the water used for production and the final dissolved silver concentration of the completed solution. Each meter arrives factory-calibrated for precision and reliability, allowing users to verify that their source water meets the required standard of ≤ 1 PPM before initiating production—an essential step in achieving consistent, contamination-free results.

Why Use Only Distilled Water? - For consistent, high-purity results, the SilverLungs Generator must operate using distilled or equivalently purified water. Non-distilled water often contains minerals, salts, and organic contaminants that can alter electrochemical behavior, leading to cloudiness, byproduct formation, or inaccurate PPM readings. To ensure optimal results, no additives or substances should ever be introduced into the production water—except for the optional SilverLungs “Accelerating Agent.” Maintaining a closed system of pure water and pure elemental silver guarantees a clean, stable, and effective ionic silver solution every time.

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Contact SilverLungs

Please feel free to contact us at any time! **We are here to help!**



Hours of Operation

9:00 a.m. to 5:00 p.m. (EST)
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SilverLungs operates in full compliance with all applicable regulations and guidelines established by the FDA, Environmental Protection Agency (EPA), and relevant Departments of Public Health.