



## ***Pool & Spa Guide***

***A practical guide to water chemistry  
featuring the products that help you care  
for your pool, spa or hot tub.***



The background of the entire page is a close-up, artistic photograph of water. It shows several concentric ripples from droplets that have just hit the surface, along with a few small, clear bubbles. The lighting is soft, creating a gentle blue and white color palette.

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## ***Welcome***

We are Phoenix Products.

For those of you who know us and use our products, we would like to take a minute to say - *Thank You*.

For those who are new customers - *Welcome*. It's been said we are a little obsessive about chemicals. Well, it is what we specialize in. It's been 25 years of trial and error to perfect the best chemistry. It's been never compromising quality. It's been constantly looking for the next pool chemical innovation. It's been a willingness to share the knowledge we've gained through experience with our customers to help their customers. Now, with that said, let's just say that's an obsession we're proud to have. Let us offer you the best of who we are - pool and spa chemicals.

We know your pool and spa are a big part of your life. They are your personal retreats, your backyard entertainment centers with water. We developed this guide to be as informative as possible. It showcases our quality pool and spa care lines which offer you everything you need to make it easy to keep your pool and spa at their best, because your private sanctuary shouldn't be a confusing chore to maintain.



# Safety 101

## **Nothing Replaces Parental Supervision**

### ◆ NEVER SWIM ALONE. NEVER LEAVE A CHILD ALONE NEAR WATER. LEARN CPR.

- ◆ Set and enforce strict pool rules such as: no running, no diving, etc. Post a list of rules near the pool area.
- ◆ Keep a pole and ring buoy with rope by the pool at all times. Know how to use each effectively, and make sure to replace these items in the same location each time you use them.
- ◆ Always have a first-aid kit handy.
- ◆ Keep a cordless phone and a list of important phone numbers nearby in case of emergencies. Also, list the address of the pool residence, should someone other than the homeowner need to make the emergency phone call.
- ◆ Use multiple layers of protection to prevent drowning, such as a fence around the pool with a self-latching, self-closing gate, as well as a pool alarm.
- ◆ Enroll children over age three in swimming lessons taught by qualified instructors.

*In addition to water safety related to swimming pools, be aware of other drowning dangers, especially for children, in and around your home. These include bathtubs, decorative ponds, and even mop buckets. It only takes 2 inches of water for a small child to drown.*

## **Chemical Safety**

When using any chemical products, read labels carefully and follow directions precisely. Chemicals protect you when they are used correctly in your pool or spa but may be hazardous if mixed or spilled.

Please observe the following guidelines:

- 1) A responsible person should handle pool chemicals. Keep out of reach of children.
- 2) For products requiring measuring, use a clean, dry, plastic scoop (or scoop provided in container). Do not interchange scoop or place wet scoop in container of chlorinating product.
- 3) Use exact quantities specified, not more. Chemicals need to circulate for hours before retesting.
- 4) Never mix chemicals together. Add products separately and slowly.
- 5) Never add water to chemicals. Add chemicals to water.
- 6) Handle all chemicals, liquid or dry, with care. Store products in a cool, dry, well ventilated place.
- 7) Always keep chemical containers closed when not in use. Replace cap on proper container.
- 8) Don't inhale fumes or let chemicals come into contact with eyes, nose or mouth.
- 9) In case of contact or if chemical is swallowed, follow emergency advice on product label or call doctor or local Poison Control Center.
- 10) Don't allow chemicals to stand on concrete or wood decks. Clean up any spillage carefully and dispose of in a safe manner - we recommend washing into pool.
- 11) Don't smoke around chemicals.
- 12) Many chemicals such as chlorinating products are corrosive and should not be stored near metal products like bicycles, lawn mowers, cars, etc.



# Water 101

## **Know Your Water Chemistry**

So where to begin? Your water's chemistry is the perfect place to start so you know what you are working with when it comes to your pool or spa. In order to have properly balanced and sanitized water, it is necessary to test for different chemical parameters to verify that proper ranges are maintained.

It's always a good idea to have your water tested professionally, but monitoring your water chemistry with at-home tests are a good idea too as long as appropriate test procedures are followed to help to you obtain accurate results.

No matter which method of sanitization you use, you need to test your pool's water 2-3 times a week and your spa or hot tub's water 3-4 times per week in order to keep it properly balanced. During heavy usage and summer months, you can perform a daily test. And anytime you notice a change in water quality, get your test kit out and check the water quality.

## **Proper Testing Procedures**

### **Test Kits Using Reagents:**

**1) Representative water samples:** Water samples should be taken at least 18" below the water surface and away from the return line. Insert a clean plastic bottle, bottom-side up, to the required depth and turn the bottle top side up to get a sample of water for testing.

**2) Proper sample volume:** To get accurate measurements, make sure the sample size is correct. All water samples will display a curvature at the surface of the water in the test cell. Always fill the cell so that the low point rests on the fill mark. Have the fill mark line at eye level when filling the sample container.

**3) Match your colors:** Matching colors in colorimetric determinations is done by holding the comparator up to northern light.

**4) Swirl . . . swirl . . . swirl:** Proper results depend on either color comparisons or detection of a color change (endpoint). For this to happen, reagents must be thoroughly mixed in the water sample.

**5) Correct drop size:** When adding any reagent drop-wise to a water sample, hold the dropper bottle vertically (straight up and down). Holding the bottle at an angle while adding reagent may distort the drop size and lead to inaccurate results.

**6) Prepare for the next test:** After testing, flush out sample cells with tap or fresh sample water to avoid any residue from interfering or contaminating the next test.

**7) Always follow manufacturer's instructions.**

### **Test Strips:**

Pool and spa owners are always looking for something quick and easy and test strips are just that, they provide a reliable result in an instant.

**1) For Spas and Hot Tubs:** turn off spa jets prior to testing.

**2) Immerse strip and swirl** 3 times in a one foot circle.

**3) Raise strip from water** face up and keep level to avoid reactant on strip pads from running. Do not shake off excess water.

**4) Compare results** beginning with the end pad. Starting with the Free Chlorine or Bromine and end with the Total Hardness pad. This order allows for the correct reaction time for the different pads.

# Water 101

## ***Recommended Levels for Pools***

	<u>Minimum</u>	<u>Ideal</u>	<u>Maximum</u>
Free Chlorine (ppm) . . . . .	1.0	1.0 – 3.0	5.0
Bromine (ppm) . . . . .	2.0	2.0 – 4.0	4.0
pH . . . . .	7.2	7.4 – 7.6	7.8
Total Alkalinity (ppm as CaCO <sub>3</sub> ) . . . . .	60	80 – 120*	180**
*Maximum for gunite pools			
**Maximum for vinyl pools			
Calcium Hardness (ppm as CaCO <sub>3</sub> ) . . . . .	150	200 – 300	400
Cyanuric Acid (ppm) . . . . .	10	30 – 50	100
TDS (ppm) . . . . .	300	1000 – 2000	3000
ORP . . . . .	650mV	—	—
Ozone (low output generator) . . . . .	—	—	0.1***
Ozone (above pool level) . . . . .	0	0	0.05

## ***Recommended Levels for Spas and Hot Tubs***

	<u>Minimum</u>	<u>Ideal</u>	<u>Maximum</u>
Free Chlorine (ppm) . . . . .	2.0	3.0 – 5.0	10.0
Bromine (ppm) . . . . .	2.0	3.0 – 5.0	10.0
pH . . . . .	7.2	7.4 – 7.6	7.8
Total Alkalinity (ppm as CaCO <sub>3</sub> ) . . . . .	60	80 – 120	180
Calcium Hardness (ppm as CaCO <sub>3</sub> ) . . . . .	150	200 – 350	400
TDS (ppm) . . . . .	300	1000 – 2000	3000
Temperature . . . . .	—	—	104°F

## Calculating Your Pool or Spa's Volume

It's key to know your pool or spa's volume in gallons as this will help you to determine the amount of treatment chemicals to add. To find out how many gallons of water your pool contains, use the formula that best applies to your pool:

### First - Calculate the average depth:

Deep End Depth + Shallow End Depth = Depth  $\div$  2 = Average Depth (in feet)

### Second - Calculate Pool / Spa Volume

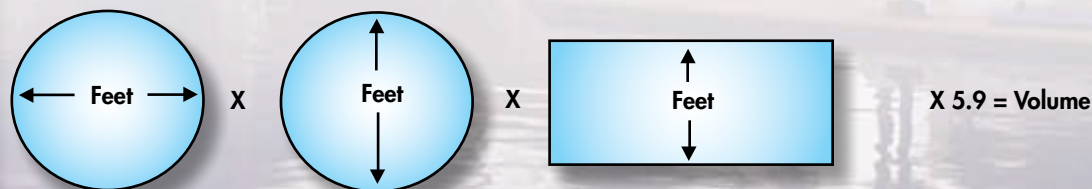
#### Rectangular or Square Formula

Length x Width x Average Depth x 7.5 = Total Gallons



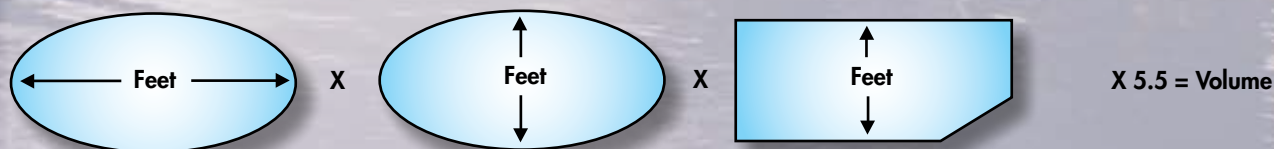
#### Circular Formula

Diameter x Diameter x Average Depth x 5.9 = Total Gallons



#### Oval Formula

Long Diameter x Short Diameter x Average Depth x 5.5 = Total Gallons



#### For Pools with Irregular Shapes or Sloping Sides

Long Diameter x Short Diameter x Average Depth x 5.5 = Total Gallons x .85 = Adjusted Total Gallons

**Your Pool Volume is** \_\_\_\_\_

**Your Spa Volume is** \_\_\_\_\_





# Balancing Water

Water balance is an important part of pool and spa maintenance to prevent damage to equipment and allow the chemical products to work efficiently. Pool and spa water should be tested regularly and adjusted to meet the proper mineral requirements. This balance is constantly changing and everything from weather to oils, to dirt, and cosmetics affect it.

## **Total Alkalinity**

Total alkalinity is the measure of the ability of water to resist changes in pH... that is... the ability to "buffer" water from wide pH swings. Total alkalinity helps protect equipment, pool surfaces, maximizes sanitizer efficiency and makes the water more comfortable. Low total alkalinity may be caused by make-up water or other chemicals used to maintain the pool. Low alkalinity makes it hard to control the pH which could lead to corrosive water and damage equipment. High alkalinity can cause cloudy water and water that is difficult to manage.

### **Phoenix Buffer Plus -**

*Raises total alkalinity in pool water. Fast acting formula requires no mixing and helps to protect pH from changing.*

Directions:

One pound of Buffer Plus (Sodium Hydrogen Carbonate) in 5,000 gallons of water raises the level 15 ppm. While the pool water is circulating, broadcast this product directly into the deepest end of the pool as required.

## **Calcium Hardness**

Calcium hardness is the measure of dissolved calcium minerals in the water. Water that has a low level of calcium hardness will tend to be aggressive, causing equipment corrosion and etching in plaster and masonry pools. Water with high levels of calcium hardness typically have cloudy water and mineral deposits called scale.

### **Phoenix Reserve -**

*Raises calcium hardness level in pool water. Our easy-to-use Reserve safely raises calcium hardness levels protecting the pool and equipment as well as helps prevent etching and staining due to low calcium.*

Directions:

Maintain a level of 175 ppm in vinyl lined or fiberglass pools and 240 ppm in concrete or plastered (marcite) pools. 10 pounds of Reserve in 10,000 gallons of water raises the level 80 ppm. While the pool water is circulating, broadcast Reserve directly into the deepest end of the pool as required.

### **Phoenix Calcium Reducer -**

*Effectively reduces calcium hardness in pool water. Calcium Reducer is a uniquely formulated blend compatible with all sanitizing systems, restores water clarity and inhibits scale formation.*

Directions:

When applied as directed Calcium Reducer will reduce calcium levels to the ideal range of 200-400 ppm. How to treat: 1 quart per 20,000 gallons will reduce calcium 100-150 ppm. 1 quart per 30,000 gallons will reduce 80-100 ppm. Add the recommended dosage of Calcium Reducer by pouring around the pool perimeter. Maintain water circulation for at least 12 hours each day, during the treatment period. Backwash filter as necessary. Allow up to 3 weeks to reach final calcium hardness level.



### **Phoenix Stabilizer - (Cyanuric Acid)**

*Stabilizer conditions pool water to prevent chlorine loss due to sunlight by maintaining chlorine residual.*

Directions:

For pools using unstabilized chlorine sanitizers: If the pool is new or has been drained and refilled with fresh water, add 2 lbs. per 5,000 gallons. This dosage provides 50 ppm of stabilizer. If water stabilizer has been used previously, use a cyanuric acid test kit to determine the amount of stabilizer present in the water. Then add the proper make-up dosage to reach 50 ppm of stabilizer (6 oz. per 5,000 gallons will increase the stabilizer level by 10 ppm.) For pools using stabilized chlorine sanitizers: If the pool is new or has been drained and refilled with fresh water, add 1 lb. per 5,000 gallons. Periodically test with a cyanuric acid test kit. Proper maintenance of a 40-60 ppm stabilizer level will increase chlorine efficiency and reduce chlorine usage.

### **For Your Spa or Hot Tub -**

**Odds are you will not be importing pure glacier water to fill your spa with. For those who can; bravo! For the rest of us, the backyard hose will more than suffice, but there are some things to consider before you fill your spa that will help with balancing properly. Try not to use soft water. Bypass your softener if you can. Run water through the hose for a couple of minutes before you place it in the spa, this allows the hose to be flushed free of any contaminants.**

### **SerenaSpa™ Alkalinity -**

*Designed to raise the total alkalinity of your spa or hot tub. A fast acting product designed to maintain proper pH as well as eliminate pH bounce.*

Directions:

Maintain total alkalinity within the range of 100-150 ppm. One ounce of Alkalinity in 400 gallons of water raises the level 10 ppm. While the spa water is circulating; walk around the spa, distributing mixture inside perimeter of spa. Wait 15 minutes and retest the pH. After two hours retest and repeat procedure if necessary.

### **SerenaSpa™ Liquid Calcium Balancer -**

*Increases water hardness and helps prevent corrosion due to soft water. Liquid Calcium is the convenient way to bring water hardness into the proper range. Low hardness indicates improper water balance and could result in corrosion of equipment and spa surfaces.*

Directions:

Shake well. Test water hardness. If calcium level is too low, make sure the pump is running and add 1/2 oz. of Liquid Calcium per 250 gallons of hot tub water. This amount will raise the hardness of your water 7 ppm. Run pump continuously for 30 min. and retest water. If hardness is not in the proper range keep repeating additions of 1/2 oz. and wait 30 min. Test again between each application.



# Adjusting pH

Once water balance is achieved, the next step is bringing your pH into range. So why is pH important? Measured on a scale that runs from 0 to 14, pH indicates whether the water is acidic, neutral or basic (alkaline). On the scale 7.0 is neutral, a pH below 7.0 is acidic and a pH above 7.0 is basic. The ideal range for pools and spas is slightly on the basic side of the scale at 7.2 - 7.8. When pH is too low, staining, corrosion, and eye irritation can occur. (Science fact: your eye's pH is 7.5.) When pH is too high scaling, cloudy water, poor chlorine disinfection, and eye irritation can occur.

## ***Causes of pH Change***

Many factors influence the pH of pool water and therefore many different causes of pH change exist. The following are some of the common causes of pH change:

- Giant Tabs (Trichloro - Sticks/Tablets) - lowers pH
- ClearBrom Tablets - lowers pH
- Cloro Pool (Liquid Bleach) - raises pH
- Super Shock - raises pH
- ClearChlor Lithium - raises pH
- Make-up water - can raise or lower pH
- Fresh plaster - raises pH
- Swimmers and swimmer waste - lowers pH

## ***Phoenix pH Up -***

*Safely and effectively raises pH of pool water.*

Directions:

While the pool water is circulating, broadcast this product directly into the deepest end of the pool at a rate of 1 lb. per 10,000 gallons of water. Apply daily as needed until the pH is brought into range.

## ***Phoenix pH Down -***

*Safely and effectively lowers pH of pool water.*

Directions:

While the pool water is circulating, broadcast this product directly into the deepest end of the pool at a rate of 1 lb. per 10,000 gallons of water. Apply daily as needed until the pH is brought into range.



## ***For Your Spa or Hot Tub -***

### ***SerenaSpa™ pH Up -***

*Designed to raise pH & softens spa or hot tub water.*

#### ***Directions:***

Add pH Up at the rate of 1 oz. (2 tbsp) per 500 gallons of water. This dosage will increase the total alkalinity approximately 10 ppm and may be added directly to the spa or hot tub when pump is on high speed. After initial application, allow water to circulate approximately 2 hours. Retest total alkalinity and add second dose of pH Up if required. Continue process until total alkalinity falls in desired range of 80 to 150 ppm. Once proper total alkalinity has been attained, test for a proper pH range of 7.2 to 7.8. If pH needs to be raised, use pH Up at a rate of 1/2 oz. for spas up to 500 gallons. Wait 30 minutes, retest and adjust as necessary.

### ***SerenaSpa™ pH Down -***

*Designed to lower pH of your spa or hot tub water.*

#### ***Directions:***

To lower pH, run the spa on high speed and pre-mix 1/2 oz. (1 tbsp) of pH Down with some spa water. To apply, walk around the spa, distributing mixture inside perimeter of spa. Wait 15 minutes and retest the pH. Repeat steps as necessary to achieve a pH between 7.2 and 7.8.

NOTE: Never add more than 4 oz. of pH Down within any 24 hour period.

### ***SerenaSpa™ pH Hold -***

*Specially formulated to lock in the vital pH level of spa water, especially hard water. pH Hold is intended for use in freshly filled spas, but can also be added to existing spa water that is properly balanced.*

#### ***Directions:***

Add 16 oz. (half the bottle) of pH Hold for up to 250 gallons of spa water or the entire contents for up to 500 gallons. Pour directly into spa. Turn on jets and allow water to circulate for 15 minutes. Temporary cloudiness may occur, but the water will clear quickly once pH Hold has completely dissolved. Repeat the application each time you refill your spa with fresh water. It is recommended that you refill every 3 months.

NOTE: If local water conditions are extreme or your spa usage is heavy, use pH Up or pH Down to bring the pH into the range of 7.2 - 7.8. Once you have achieved the desired pH level, then follow the directions above. Once pH Hold is added, it will lock in the pH level.



# Sanitizing Water

## Why Sanitize?

Well, first let's start with what exactly is it? Sanitation is the reduction of the level of micro-organisms (living cells so small they can only be observed through a microscope) by significant numbers (usually 99.9% or more) to safe levels as established by state or federal authorities. Okay, now for why this is important to your pool or spa; think of all the things you might do over the course of a day; get dressed (put on deodorant), do your hair (add a little hair spray or gel for hold), head outdoors for a bike ride or jog (sun tan lotion and some serious perspiration), take a quick ride to the store to pick up a few things (the clerk is just getting a cold as he hands you your change) and maybe stop and pump some gas (how many people have touched that pump?) before going home to take a well deserved dip in your pool or spa. Okay now wait... did you take a shower and scrub with disinfectant hand soap before diving in? NO!? Then guess what's now in your pool with you... *bather waste*. It's a common term for all that stuff you bring in the water with you like deodorant, hair spray, sun tan lotion, perspiration, body oils, bacteria and viruses. Now think of all the possible stuff nature brings too - dust, dirt, rain, algae, and fungi. Clearly, you don't want these things in the water with you making you sick or anyone else sick for that matter which is why sanitizing is key. The following covers different methods for water sanitation. As with all the topics covered in this guide, if you have any questions or doubt, your dealer will be happy to assist!

## Chlorine Chemistry

The most popular pool and spa sanitizer is chlorine. When we add  $\text{Cl}_2$  (chlorine) +  $\text{H}_2\text{O}$  (water), we get a chemical reaction which produces  $\text{HOCl}$  (hypochlorous acid). The hypochlorous acid molecules work to disinfect your water killing micro-organisms and bacteria. These molecules also oxidize, meaning they destroy contaminants and waste. The whole process of removing organics and micro-organisms consumes the chlorine in your water. This consumption is called the *chlorine demand*. Have you ever had that obnoxious "chlorine" smell assail you the moment you get near a pool or spa? Was your first thought, "there's too much chlorine in the water!" Then, once in, your eyes turn a scary shade of red? Hard to believe, but these issues are clear indication that there is not enough chlorine to keep up with demand. Ever open up a gallon jug of chlorine bleach and take a whiff? It smells fresh and clean and so does your pool or spa when the chlorine levels are just right. If you do get that strong chlorine smell, a 'super dose' of chlorine may be required to correct the problem which brings us to superchlorination or shocking. Shock treatment adds a larger than normal amount of oxidizing chemicals to pool water. This additional dose destroys organic contaminants and oxidizes ammonia and nitrogen compounds to rid the area of irritating chloramine odor and to sanitize the water. Shocking should be done about once a week with the pump and filter operating, but after sundown to avoid the loss of chlorine to the sun's ultraviolet rays and to allow sufficient time for chlorine levels to return to normal before swimming again.

## Phoenix Giant Tabs - (3" Stabilized Chlorinating Tablets)

These tablets are manufactured with the most concentrated form of dry chlorine available today. They are slow dissolving to allow you to reliably dose your pool once a week. These tablets contain cyanuric acid - a stabilizer that prevents ultraviolet light from removing the available chlorine from the pool. These tablets allow you to easily maintain proper chlorine residuals and help you to effortlessly produce beautiful, clean sparkling water. For use in chlorinators and automatic feeders.



## ***Phoenix Dichloro Granular -***

### **Directions:**

Dissolve this product in a clean plastic bucket stirring with a clean plastic or wooden spoon. Add this product to water, NEVER add water to this product. Maintenance Dose: Add 4 ounces per 10,000 gallons as an initial treatment. Repeat until a residual of 1-3 ppm chlorine is established. For superchlorination, use 1 pound per 10,000 gallons. To prevent damage to pool surface, use a pool brush to disperse any granules that have settled to the bottom of your pool. Keep filter system running for at least 12 hours after treatment. Frequency of treatment is dependent on ambient temperatures, light intensity, and bather load. Do not reenter pool until chlorine level has dropped to 1.0 – 3.0 ppm.

## ***Phoenix Clearchlor Lithium - (Lithium Hypochlorite)***

*The ultimate water sanitizer! Sparkling water, simply and easily.*

### **Directions:**

After filling or at the start of each season, initially, two (8 oz.) cups of Clearchlor per 5,000 gallons of pool water is added to develop the proper chlorine level of 1-2 ppm. To prevent chlorine decomposition and provide a balanced, economical pool sanitation program, add Stabilizer. The available chlorine content of the swimming pool should be maintained between 1.0-1.5 ppm. Under normal conditions, this can be maintained by adding daily 2.7 oz. (1/3 cup) of Clearchlor for each 5,000 gallons of pool water. Severe conditions such as high temperatures or excessive use will require a higher daily dosage. The pool water should be superchlorinated once a week - five times the normal addition, or a minimum of one cup (8 oz.) per 50,000 gallons of pool water should be added in the evening when the pool is not in use for a minimum of 12 hours. If the chlorine residual is above 2 ppm, usage of the pool should not be permitted until it is decreased.

## ***Cloro Pool Shock - (Sodium Hypochlorite)***

### **Directions:**

For a new pool or spring start-up, superchlorinate with 52 to 104 oz. of this product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine. To maintain the pool, add manually or by a feeder device 11 oz. of this product for each 10,000 gallons of water to yield an available chlorine residual of between 0.6 to 1.0 ppm. Stabilized pools should maintain a residual of between 1.0 to 1.5 ppm available chlorine. Frequency of water treatment will depend upon temperature and number of swimmers. Every seven days, or as necessary, superchlorinate the pool with 52 to 104 oz. of this product for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine by weight. Do not re-enter the pool until the chlorine residual is between 1.0 and 3.0 ppm.

## ***Phoenix Super Shok - (Calcium Hypochlorite)***

### **Directions:**

For a new pool or spring start-up, superchlorinate with 10 to 20 oz. of Super Shok for each 10,000 gallons of water to yield 5 to 10 ppm available chlorine. To maintain the pool, add manually or by feeder 2 oz. of Super Shok for each 10,000 gallons of water to yield an available chlorine residual between 0.6 to 1.0 ppm. Stabilized pools should maintain a residual of 1.0 to 1.5 ppm available chlorine.

## ***SerenaSpa™ Granular Chlorine -***

*Effective spa and hot tub sanitizer.*

### **Directions:**

For maintenance doses: With pump on, add 1/2 teaspoon of this product per 100 gallons of water (or 5 teaspoons per 1,000 gallons) as an initial treatment. Repeat at 15 to 20 minute intervals until a residual of 3 to 5 ppm of available chlorine is established. For superchlorination: Use one teaspoon of this product per 100 gallons of water (or 1/4 cup per 1,000 gallons). Superchlorination may be needed on a nightly basis in a heavily used spa or as infrequently as once a week in a moderately used spa. Frequency of treatment is dependent on ambient temperatures, light intensity, water replacement and bather load. Reentry is prohibited above levels of 3 ppm chlorine due to risk of bodily injury.



# Sanitizing Water

## **Bromine Chemistry**

Bromine is a powerful and effective sanitizer. Use it as an alternative to chlorine, especially in spas, hot tubs and indoor pools. The use of bromine is significantly different from chlorine and the methodology to use this sanitizer also differs. The difference between chlorine and bromine is that once chlorine combines with bacteria or harmful organics to kill them, most of the chlorine is used up. When bromine combines with bacteria in water, the bromine is still active but combined with the bacteria and organic matter to neutralize these harmful contaminants. When shocking bromine treated water; the shock treatment only burns off the harmful contaminants, and leaves a good portion of the bromine behind which is available to sanitize the water again.

## **Phoenix ClearBrom - (Brominating Mini Tabs)**

*Slow dissolving bromine tablets for pools.*

Directions:

A bromine residual of 1-2 ppm must be first established in the pool. If the residual is established with this product in a brominator, use at the highest feed rate following manufacturer's recommendations. When the bromine residual reaches 1-2 ppm, adjust the feeder accordingly. To maintain bromine residual, adjust the brominator feed rate to assure a constant treatment level of 1-3 ppm in residential pools and 3-5 ppm in commercial pools.

## **SerenaSpa™ Brominating Tabs -**

Directions:

Fill spa bromine feeder with tabs and adjust feeder following manufacturer's directions to yield bromine residual between 2-4 ppm in residential spas and 4-6 ppm in commercial spas. Check feeder regularly and add additional tabs as needed to maintain the bromine residual.

## **SerenaSpa™ Bromide Liquid Salts -**

*A solution of bromide that is part of a two product system for disinfection. Must be used with Oxy Clean to produce bromine sanitizer.*

Directions:

Bromide Liquid Salts has no disinfectant qualities and it is only when Oxy Clean is added that bromide is released into the water. Add 4 oz. to 250 gallons directly into the spa/hot tub. Circulate the water while adding to assure rapid and thorough distribution. Weekly, thereafter, add 1 oz. to 250 gallons to maintain a sufficient bank of bromide in the water. Heavy usage, or the length of time the spa/hot tub is in use may result in depletion of bromide and require additional dosages of Oxy Clean and/or Bromide Liquid Salts to maintain the desired bromine residual.

## **SerenaSpa™ Pure Brom Flakes -**

*An effective disinfectant for your spa or hot tub water, keeping it clean, clear, fresh and free of odor.*

Directions:

Place Pure Brom Flakes in suitable feeder. Adjust the feeder according to the manufacturers directions to maintain a bromine level between 2 - 4 ppm in residential spas and 3 - 6 ppm in commercial spas. Check your feeder regularly and add additional product as needed. Maintenance of residual is dependent on water temperature, light intensity and bather load.



## **Non-Chlorine Based Shock**

Oxy Clean (Potassium Peroxymonosulfate) is an alternative to chlorine-based shocking, particularly in situations where bathers may have allergic reactions to chlorine.

### **Phoenix Oxy-Clean**

- Contains no chlorine – will not produce chloramines or generate chlorine odors.
- Will not damage vinyl liners.
- Completely soluble in water – dissolves quickly at normal pool temperatures.
- Permits same-day shock and swim.
- By-products are harmless sulfate salts.

Directions:

Light/Medium Pool Use: 1 lb. Oxy-Clean per 10,000 gallons of pool water every two weeks. Heavy Pool Use: Use 1 lb. Oxy-Clean per 10,000 gallons every week. Add by broadcasting evenly around the pool perimeter with filter pump in use. NOTE: Oxy-Clean is used only as a shock treatment and it will not replace the need for regular use of a pool sanitizer such as chlorine or bromine.

### **SerenaSpa™ Oxy Clean**

*Oxy Clean is a non-chlorine buffered oxidizer. This product is stable at all hot tub temperatures. It is compatible with most chemicals that are normally used to treat hot tub water.*

Directions:

Add 1 oz. of Oxy Clean after each use of your hot tub. Weekly Use (Maintenance): Once a week or whenever the water becomes cloudy, add 3 oz. of Oxy Clean to your hot tub water as a Maintenance dose.

## **Biguanide Chemistry**

Biguanides (whose chemical name, polyhexamethylene biguanide) were first developed as a pre-surgery antimicrobial scrub. Despite their aggressive desire to kill germs, biguanides are gentle on the skin and eyes. In fact, biguanides are used in some contact lens cleaning solutions. And because they reduce the surface tension of water, biguanide-treated water feels silky smooth. Compared with chlorine or bromine, biguanides are less susceptible to UV rays, and they are more stable (which means that their sanitizing power lasts longer). Use test strips or a liquid reagent specifically designed for monitoring biguanide levels to measure the amount of sanitizer in the water.

### **Phoenix Biguanide**

Biguanide Sanitizer is a powerful cationic polymeric sanitizer which enables you to sanitize your pool without chlorine or bromine. Not compatible with chlorine or bromine based products, can be used safely with Baquacil® and SoftSwim® non-chlorine sanitizers.

Directions:

Freshly Filled and Dechlorinated Pools: Add 1/2 gallon of this product to 10,000 gallons of pool water to achieve a concentration of 50 ppm. Maintenance dose: Every week check concentration and pH. Maintain concentration at about 50 ppm. Add at the rate of 1 pint (16 oz.) per 10,000 gallons of water to raise the concentration 10 ppm. The level should not drop below 30 ppm. Note: this product and chlorine are incompatible. Do not use in freestanding spas/hot tubs. Do not use in unpainted plaster pools previously exposed to metals which may cause staining. Phoenix Biguanide Sanitizer is not compatible with many detergents and some supplemental algaecides (such as copper based).





# Treating Algae

## Algae Formation

Algae are single-cell plants containing chlorophyll and are one of the hardiest and most widespread living organisms on this planet, existing in over 30,000 different varieties. Algae require warm water, sunlight, and carbon dioxide to grow – and guess what?! Pool and spa water has the potential of providing just such an environment. When conditions are right, an algae bloom can occur seemingly overnight so instead of dealing with algae after the fact; which requires work and effort (and money!) to rid the water completely of algae, it is better to use preventative chemicals and keep algae at bay.

There are three main categories of algae:

- 1) Green Algae** – usually floating algae, but sometimes clings to walls. Pool water becomes turbid with a green growth that renders the pool uninviting and dangerous to use by making it difficult to see the bottom of the pool (which brings us back to uninviting - who really wants to swim in that anyway!) Before green coloration appears, sides of the pool have a slippery feel, water becomes hazy, and exhibits a high chlorine demand.
- 2) Mustard (Yellow) Algae** – appears as a yellow powdery deposit on the pool, usually on the shady side. Once established, it is chlorine-resistant and can exist in the presence of 3-5 ppm Free Chlorine.
- 3) Black (Blue-Green) Algae** – evident by the formation of dime to quarter-size black (or blue-green) spots, tenaciously adhering to the pool's surfaces. Black algae forms a layered structure where the first layers, which may be killed by chlorine, protect underlayers from further destruction. Black algae, like mustard algae, is also chlorine-resistant.

## Phoenix Algae Bomb -

*For fast treatment of yellow and mustard algae in swimming pools. Algae Bomb clears water quickly and can be used in any type of swimming pool. Swimming may be resumed several hours after treatment.*

Directions:

All dosages are for 10,000 gallons of water. Brush walls and floor areas affected by yellow algae accumulations. Apply 4 oz. of Algae Bomb per 10,000 gallons as close to the affected areas as possible. For severe accumulations, double the above dosage. Activate by shocking based on your pool's sanitation type following directions of that product's label. Swimming may be resumed a few hours after treatment. Weekly maintenance: To prevent accumulation of yellow algae: For water temperature over 80°F, add 4 oz. Algae Bomb with 1 gallon liquid chlorine or 1 pound of a dry chlorine once a week. For water temperature under 80°F, add 2 oz. Algae Bomb weekly and ½ gallon liquid chlorine or ½ pound of a dry chlorine.

## Phoenix Algaecide CU7 - (Copper)

*Made especially to control growth of algae in all types of swimming pools. Its long lasting action will control existing algae and subsequent doses will control recontamination by algae. Treated water can be used immediately... no waiting.*

Directions:

This product comes concentrated. Dilute with at least nine parts of water before applying. Dilution rate for 10,000 gallons of water is 4 oz. for initial treatment and 2 oz. once every two weeks. Pour required amount into a plastic watering can, fill with water and sprinkle around edge of pool. Apply initial treatment to a freshly filled pool or at first visible signs of algae growth. Apply under sunny conditions for most effective results.



### **Phoenix Poly 60 Algaecide - (Wide Spectrum)**

*Algaecide used to control the growth of algae in swimming pools, exterior spas, whirlpools, hot tubs, and decorative fountains. Also available in Poly 15, 30, and 50.*

Directions:

For maximum effectiveness pools, spas, whirlpools, hot tubs, and decorative fountains containing heavy growth of algae should be cleaned prior to using Poly-60 Algaecide. For pools having just visible algae growth add an initial dose of 11 to 17 oz. per 10,000 gallons of water and remove settled algae debris by cleaning.

For treatment of a freshly cleaned and filled pool add initially 6 to 11 oz. per 10,000 gallons of water.

Subsequent additions of 2 to 4 oz. per 10,000 gallons of water should be made every 5 to 7 days after initial treatment for maintenance.

Spas, whirlpools, hot tubs, and decorative fountains having just visible algae growth require an initial dose of 1 to 2 oz. per 1000 gallons of water. For treatment of a freshly cleaned and filled spa, whirlpool, hot tub, or decorative fountain, add initially 0.6 to 1.1 oz. per 1000 gallons of water. Subsequent additions of 0.2 to 0.4 oz. should be made every 5 to 7 days after initial treatment for maintenance.

### **Phoenix Algem Concentrate -**

*Swimming pool algaecide supplement effective against green, black, blue-green, and mustard algae.*

*Keeps water free of algae and slime.*

Directions:

Do not allow swimming in pool for at least 15 minutes after this product has been applied. Initial application: Vacuum algae debris to waste and thoroughly brush pool. Add 5.25 oz. of this product to each 10,000 gallons of water, adding directly into pool by pouring around perimeter of pool. Vacuum pool after 24 hours to remove dead algae. If algae is still visible repeat dose as necessary until pool is free of visible algae. Once algae is under control, clean filter. Maintenance dose: Add 1.25 oz. of this product to 10,000 gallons of pool water. Maintenance dose should be added weekly. If high temperatures prevail or pool has unusually heavy use, add maintenance dose more frequently.

### **Phoenix Algem II -**

Directions:

Add 26.25 oz. of this product to 10,000 gallons of pool water. Wait 15 minutes before entering pool. Vacuum pool after 24 hours to remove algae debris. When pool is free of visible algae, use the recommended maintenance dose. Maintenance dose: Add 6.25 oz. of this product to 10,000 gallons of pool water. If make-up water is added at the rate of more than 10% per week of pool capacity, add 2.5 oz. for each 1,000 gallons of fresh make-up water added. Maintenance dose should be added weekly. If high temperatures prevail, pool has unusually heavy use or after a heavy or prolonged rainfall, add maintenance dose more frequently.

### **Phoenix 3 Month Algaecide -**

*Single treatment kills & prevents all types of algae growth for 3 months!*

Directions:

Every three months: 16 fl. oz. 3 Month Algaecide per 10,000 gallons pool water will prevent algae growth in all pool types. Severe algae treatment: 32 fl. oz. 3 Month Algaecide per 10,000 gallons pool water. Add 3 Month Algaecide directly to the pool, distributing it over as wide an area as possible.



# Maintain Clarity

## ***Cloudy, dingy, hazy, murky...***

No matter what word you use to describe it, when confronted with cloudy pool or spa water, confusion often results because there are several different reasons for water to become cloudy. Cloudy, or turbid water is the result of the presence of suspended solids in the water.

The key causes of cloudy water:

**1) Filtration/Circulation:** If a filter is not properly functioning, cloudy water is your first sign. For pools, check to see if the water flow is restricted by a malfunctioning pump, circulation stoppage, or lack of backwashing the filter. For spas and hot tubs, inspect filter cartridge for tearing and cracking. For both pools and spas, clean filter if necessary.

**2) Water Balance/Mineral Levels:** If the water is out of balance on the scaling side, suspension of calcium carbonate particles is possible. By balancing pool water, the calcium carbonate will go back into solution and turbidity will clear up.

**3) Algae Formation: Pools** -Formation of algae which has not yet bloomed, will cause the pool to cloud. This type of turbidity can be distinguished from other causes by noticing the slippery feel on the pool's surface. Shock the pool with 30 ppm chlorine to correct this problem.

**Spas and Hot Tubs** - Outdoor spas and hot tubs can (though rare) encounter algae problems especially if rarely used.

**4) Heavy Bather load:** A heavy influx of bathers at one time can overload a pool or spa with organics, causing turbidity. An effective preventative measure is a good shock treatment to clear the water and raise normal chlorine levels in anticipation of a heavy bather load.

## ***Metal, Metal Everywhere***

Good water maintenance also includes dealing with metal. Metal? Yup, metal. Not the stuff on your MP3 player or the flashy kind you wear. The kind that causes heartache and misery for pool and spa owners everywhere. Issues with metal and metallic ions can cause staining and scale, can color water, can damage equipment and ruin your pool or spa if not treated or better yet - prevented. So how does metal find it's way into your pool or spa? Through the very water you fill them with, and it doesn't matter if it's well water or tap water. Iron, copper, manganese, cobalt, aluminum and silver can all be present in dissolved form in your fill water. As the metal and metal ions accumulate, the greater the chance that they will eventually come out of solution. Once out of solution, they make the water cloudy or worse, they "plate out" on the pool's or spa's surfaces and stain. Those same metals can come out of solution when the pH, Total Alkalinity and/or Calcium Hardness are out of level. Also to be aware of is when you shock, whether with chlorine or a non-chlorine oxidizer, the shock oxidizes everything in the water, including metals.

Popular metals and the colors they can produce:

Iron - brownish red.

Cobalt - red, blue, gray, or black.

Copper - blue green.

Manganese - pink, red, black or brownish black.

Calcium - cloudy.



### **Phoenix Super Erace -**

*Highly concentrated formula removes metals (iron, copper, manganese), removes metal stains, restores water clarity as well as reduces scale formation on pumps and heaters.*

Directions:

Super Erace works by forming a clear insoluble crystal with the metal ions normally found in the pool. These insoluble crystals are then removed by filtration. It is important to keep the filtration system operating for 72 consecutive hours after addition of Super Erace to insure complete removal. Metal removal: Add one quart per 10,000 gallons of pool water with the filtration system operating. Maintain pH level and check often. Backwash the filter at the end of 24 and 72 hours. Cartridge filters should be removed and cleaned as needed. Several cleanings may be required in the first 24 hours. Stain removal: Add two quarts per 10,000 gallons of pool water with the circulating system turned off. Add the product around the perimeter of the pool allowing it to contact the pool wall as it settles into the water. After about one hour, start the system and maintain filtration for 72 hours and backwash the filter as above. Super Erace will remove metal stains from both concrete and vinyl liner pools. Maintenance: Regular use of Super Erace will prevent staining and keep the plumbing in good condition. Add 4 oz. per 1000 gallons of new water added to the pool.

### **Phoenix Super Pool-Pruf -**

*Polymeric clarifier which cures cloudy water removing ultra-fine dirt particles and improves filter efficiency for sparkling pool water.*

Directions:

Cloudy water can be caused by bacteria, poor water balance, algae, or fine particles of impurities. Super Pool-Pruf is a very low molecular weight, cationic flocculent that will combine tiny particles of dirt, dead algae and color into masses large enough for the filter to trap. Simple to apply and safe to handle, Super Pool-Pruf works well over a wide pH range and will not affect pool pH as does alum or alkali. Not affected by chlorine or bromine. The dosage of Super Pool-Pruf required depends on the amount of dirt, color, or particles present. Initially add 4 oz. of Super Pool-Pruf for every 20,000 gallons of pool volume. Just mix proper amount with 2-4 gallons of water, then distribute evenly around pool perimeter. Continue filter operation during full treatment period. If after 24 hours noticeable color or turbidity exists, a second treatment is recommended. Under normal conditions and following above recommendations, pool use can be resumed 2 hours after Super Pool-Pruf addition. Periodic treatment will keep pool water sparkling clear. Pool Openings: Use of Super Pool-Pruf will reduce the time required to restore clear water quality. 1 oz. per 2,500 gallons is recommended.

### **Phoenix Erace**

*Highly concentrated, Erace is a great first step when opening your pool. Erace eliminates colored or cloudy pool water and stops the precipitation, scaling, and staining of the most common minerals found in pool water.*

Directions:

Add Erace at the rate of 1 quart per 7,500 gallons. A 12-hour waiting period is sufficient for Erace to mix with the pool water before adding chlorine.



# Maintain Clarity

## **Phoenix Flock -**

*Coagulant clarifier helps clear cloudy water in swimming pools.*

### **Directions:**

When Flock is added to the water it forms gelatin-like particles called "flocs" which trap small pieces of dirt and impurities and settles them to the bottom of the pool where they may be removed by vacuuming. Directions for settling: Apply 3-4 ounces of Flock per 1,000 gallons by broadcasting it over the surface of the pool as you walk around the edge. Do this with the filter off. Foreign material and Flock should settle to the bottom if the water is allowed to remain undisturbed overnight. After the debris has settled to the bottom remove with pool vacuum, sending water to waste. Do not filter the water from the vacuum during this operation. Directions for use as filter aid for sand filters: Backwash your filter. Using 3 oz. for each square foot of filter area, add Flock very slowly (over a period of 6-8 hrs.) through the intake of the filter or through the automatic surface skimmer. A gelatin-like layer will form over the top surface of the filter material removing many small particles that would otherwise pass through the filter and back into the pool. Liquid Floc can be used in place of dry flock.

## **Phoenix 4 in 1 Natural Clarifier -**

*An all natural polymer from crustacean shells proven to be a superior clarifier for swimming pools, spas, fountains, water parks, ponds, aquariums. 4-in-1 Clarifier is environment friendly - will not harm plants, animals or fish.*

### **Directions:**

When used weekly, 4-in-1 Clarifier clears cloudy water by coagulating all the tiny particles, oily liquids, and stain-causing metals that build up and deposits them in your filter where they stay until you flush them out. Any filter will leave a certain amount of material in your water. 4-in-1 Clarifier allows your filter to trap these impurities and hold them without clogging. The molecular structure of our biopolymer keeps it and the impurities it holds in the filter media, and not in the spaces that your water passes through. So, your filter can actually run longer between cleanings. Clean or backwash your filter if applying initial dose. Add desired dose, 1 ounce treats 500 gallons, across the water's surface, no premixing required. If your water is especially dirty you can double or triple the dose. Allow at least 1-hour of continuous filtration.

## **SerenaSpa™ Clear Blue -**

*Clear Blue is a cationic polymeric flocculent formulated to coagulate and floc fine suspended solids from spa and hot tub water. These solids, after the addition of Clear Blue, will be filtered out of the spa or collect on the bottom for removal.*

### **Directions:**

**Initial Use:** After filling spa or hot tub, add Clear Blue directly to spa when pump is on high speed at a rate of 4 oz. per 500 gallons of water. **Weekly Use:** Add 2 oz. of Clear Blue per 500 gallons of water as a maintenance dose. For cloudy water, add approximately 2 oz. per 500 gallons until water is clear.



## SerenaSpa™ Foam Out -

*Foam Out is an exclusive formula that breaks up existing foam in spas, hot tubs, and whirlpools. Use Foam Out whenever troublesome, unsightly foam develops.*

### Directions:

To Eliminate Foaming: Shake well and dispense approximately one capful of Foam Out onto the surface of the water while the water is being circulated. Wait 30 minutes and repeat treatment if foam has not subsided.

NOTE: If more than three capfuls of Foam Out have been used within a 24 hour period, it is recommended that you clean your filter(s) to prevent clogging with SerenaSpa™ Filter Cleaner and test your water chemistry.

## SerenaSpa™ Naturally Clear -

*Use Naturally Clear to break down contaminants as soon as they enter your spa. Water is kept clear and odor free. Natural enzymes emulsify and biodegrade contaminants converting them into easy to remove compounds so the waterline and the filter can go longer between cleanings. Naturally Clear works to remove organics before they can interfere with sanitizer performance. This boost in sanitizer effectiveness keeps spas and hot tubs safe, while your spa experience is greatly improved. Naturally Clear may be used in hot tubs equipped with ozonators.*

### Directions:

To attain clean, clear, and odor-free spa and hot tub water, add an initial dose of Naturally Clear to spas up to 1 oz. to 100 gallons daily until water is clear. To maintain, add 1 oz. to 100 gallons weekly.

## SerenaSpa™ Stain & Scale Preventer -

*The water used to fill your spa may contain high amounts of metal that can stain or discolor your spa's surface. The presence of minerals can cause oxidizing and scaling on the shell's surface and erosion of the heater element. SerenaSpa™ Stain & Scale Preventer protects your spa from metal and mineral impurities found in spa water.*

### Directions:

Initial Use: Add 16 oz. to spas up to 500 gallons of water while it is being filled, before any sanitizer is added. Remove and clean cartridge filter within 24 hours of dose with filter cleaner. Maintenance Dose: When you add water to top-off your spa, you may need to maintain your Stain & Scale Preventer levels. Add 1 oz. per 100 gallons of Stain & Scale Preventer to hot tub water while the pump is running. Allow the water to recirculate overnight or until the water is clear. This will help to control any mineral staining and will help to protect the heating element from corrosion. If staining continues due to excessive mineral levels in water, increase dosage.





# ***Cleaning Up***

## ***The Art of Clean***

To some cleaning is viewed as an art form. To the rest of us, it is a necessary chore. No matter what type of surface or cleaning solution needed, we have got you covered.

### ***Phoenix Filter Cleaner -***

*A concentrated cleaning solution designed specifically for removal of oils, grease and soaps to restore filter to original condition. Clean filters will reduce pump electricity costs, and will decrease the potential for bacterial growth.*

Directions:

For Cartridge and D.E. Filters: Use full strength on elements and brush clean, or soak elements in a solution of 1 part Filter Cleaner to 10 parts water. Soak for 3 hours or overnight. For Sand Filters: For filters up to 24" diameter tanks, use 16 oz. For filters with greater than 24" diameter tanks, use 32 oz. Add Filter Cleaner to pool skimmer with pump running and the filter in backwash.

### ***Phoenix Instant Filter Cleaner -***

*Removes scum, oils, minerals and scale from Spa & Pool Cartridges & D.E. Grids. Easy to use, no scrubbing. This special liquid formula works in minutes so you can continue to enjoy your spa or pool. It is recommended that you use every 4-6 weeks to maintain filter efficiency.*

Directions:

Rinse filter cartridge or D.E. Grids thoroughly to remove any loose matter/debris. While wet, spray Instant Filter Cleaner on total surface area and allow to set for 3-5 minutes. Rinse thoroughly and reinstall in filter system. Note: It is recommended that 2-3 times a year that you soak the cartridge in a solution of Phoenix Filter Cleaner for 24 hours.

### ***Phoenix Enzyme Tile & Vinyl Cleaner -***

*Designed specifically for removal of oil, grease, soaps, and waterline scum as well as restoring original sheen to pool surfaces. Safe and effective for vinyl, tile, ceramic, fiberglass and acrylic pool and spa surfaces.*

Directions:

Spray or sponge Enzyme Tile & Vinyl Cleaner directly on dirty pool surface. Wipe with damp cloth or sponge and flush with pool or spa water. For hard caked-on oils and scum, apply Enzyme Tile & Vinyl Cleaner, let stand for one minute and use a nylon brush. Bubbles may appear in water around cleaning area, but will dissipate after several minutes.

### ***Phoenix Stow Guard -***

*Designed to clean, deodorize, and prevent mildew for pool and spa covers and solar caps.*

Directions:

With cover still on, remove water, leaves, debris, etc. Remove cover and squirt Stow Guard over full area of cover. Using a nylon brush, scrub cover clean adding water to aid in loosening of dirt. Rinse loosened soil with water. If possible allow cover to dry thoroughly. Cover should be stored in a safe place.



### SerenaSpa™ Spa Brite -

*Safe, all-purpose cleaner designed to eliminate mineral deposits, waterline scum and other organic stains on acrylic shells, spa covers, Corian®, outdoor furniture and other outdoor accessories.*

#### Directions:

Spray directly on spa surface, vinyl, tile, pool or spa furniture, equipment, accessories and wipe clean. For stubborn deposits allow solution to remain on surface for 5 minutes, scrub, and rinse with water.

### SerenaSpa™ Cover Rejuvenator -

*Cover Rejuvenator has been formulated exclusively to effectively clean and restore luster to vinyl and other hard surfaces. Helps prevent fading and discoloration. Waterproofs leaving protective silicone shield.*

#### Directions:

Wipe surface with a mild detergent to remove excessive soiling. Dry cover thoroughly before applying this product. Shake this product gently and then apply liberally to the spa cover surface. Let stand on the surface 10 to 15 minutes to permit penetration. Wipe off excess with clean cloth and buff to high luster.

### SerenaSpa™ Jetline Cleaner -

*Jet Line Cleaner clears spa and jetted bath tub plumbing of organics, oils, dirt, and minerals. Add Jet Line Cleaner before the water is drained to prevent buildup that can restrict water flow and damage equipment. This product is compatible with all sanitizers including chlorine, bromine, ozone and biquanide.*

#### Directions:

Use Jet Line Cleaner every 3 months or when the spa is drained and refilled. Before spa is drained, add entire bottle of Jet Line Cleaner to warm spa water through the skimmers. Turn pump on and run the jets for 15 minutes. (Ensure that filter is not in spa.) Turn pump and jets off and let sit for 1 hour. Turn pump on and run jets and blower for 15 minutes. Drain the spa, hosing off the inside spa walls while draining. When empty, rinse one last time.

### SerenaSpa™ Spa Gloss -

*An innovative polish that contains unique reactive silicones which chemically bond to spa surfaces, providing a hard, glossy, durable, protective coating.*

#### Directions:

Drain, clean, and polish your spa frequently. Apply this product to a clean, dry spa using a soft, dry cloth. Spread evenly to one area at a time with a circular overlapping motion. Allow this product to dry for 10 to 15 minutes and react with the spa surface. Wipe off residue with a clean, dry cloth. Turn cloth frequently. Repeat application for additional protection and shine.

### SerenaSpa™ Cartridge Cleaner -

*Concentrated formula cleans spa cartridge filters. Removes oils, dirt and grease. Restores filter efficiency.*

#### Directions:

Remove cartridge or elements from filter housing. Use full strength on elements and brush clean, or soak elements in a solution of 1 part Cartridge Cleaner to 10 parts water (1 qt to 2.5 gallons). Soak for 3 hours or overnight. Rinse with maximum water pressure and replace elements or cartridge.

### SerenaSpa™ Instant Cartridge Cleaner -

*Removes scum, oils, minerals and scale from spa cartridges improving filter life and water clarity. Easy to use with no scrubbing required; this special liquid formula works in minutes so you can continue to enjoy your spa. It is recommended that you use every 4-6 weeks to maintain filter efficiency.*

#### Directions:

Rinse filter cartridge thoroughly to remove any loose debris. While wet, spray Instant Cartridge Cleaner on total surface area and allow to set for 3-5 minutes. Rinse thoroughly and reinstall in filter system.

# Salt Water Pools

***The water... smooth. Your skin... smooth. And you... refreshed!***

## ***The Science of a Salt Water Pool:***

There is a funny misconception when it comes to salt water pools. Often one hears the term 'salt water' and immediately thoughts turn to white sandy beaches, warm tropical breezes, and the bliss of all things seaside. As wonderful as that imagery is, the thought that a salt water pool is similar to ocean water is not an accurate one. In fact it's better! For a salt water pool consists of a mild saline solution, one which makes the water feel smooth, your skin feel smooth, and you feel refreshed. The salt level in a salt water pool is between 2,700 to 4,000 ppm (parts per million). At 5,000 ppm you will be able to taste the salt in the water, but no need to worry about flashbacks to that one family vacation where salt water was accidentally ingested by the gallons... a salt water pool, even with salt levels slightly high will never come close to the salt content of ocean water, which is about 35,000 ppm.

Another, slightly more critical misconception is that salt water pools are chlorine free. Oops, that's not true. But again, this is one of the benefits of having a salt water pool; a salt water pool utilizes a chlorine generator. A chlorine generator's main function is to produce chlorine for the pool so you do not have to store it or handle it. Chlorine generators produce chlorine constantly (while the pump is running) with most units. This keeps a residual of chlorine in the pool that prevents algae from growing. The secret is through the process of electrolysis. Salt water passing over the chlorine generator cell produces a chlorine gas that is instantaneously transformed into Hypochlorous acid. Hypochlorous acid is the active sanitizer all chlorine products produce which kills algae and bacteria in the water. Its effectiveness is totally predicated on balanced water conditions and more importantly, proper pH. So, when using a chlorine generator, you still must maintain your water balance (pool chemistry) properly. Also, be aware of salt levels. If the salt levels are too low, the chlorine produced will not be effective in sanitizing the water properly. Too high and the generator may risk damage.

## ***Things to Know with Salt Water Pools:***

**Salt levels** - Check your salt levels regularly. There are test strips available to check your salt levels. Even if the system does not indicate low salt, it is always better to check it yourself as the salt level indicators on generators can fail to give an accurate reading, especially if there are problems with the cell. If the salt level is low, add the proper amount of salt and retest a day or so later. It is always a good idea to have your water tested periodically by your dealer.

**Stabilizer (Cyanuric Acid)** - Make sure your stabilizer level is where it should be. Salt water pools should have 60-80 ppm stabilizer. The purpose of stabilizer in the water is to help keep the chlorine from being quickly dissipated by UV rays. If there is not enough stabilizer in the water, then the pool will use chlorine rapidly and the salt system will not be able to keep up.

**Watch out for phosphates** - Phosphates are the key nutrient for algae, and if phosphate levels are too high your salt water generator will have a hard time keeping up with chlorine demand. Why, you ask? Because even if it's not visible - algae and phosphates go hand in hand. And the minute your generator produces chlorine, it has to go to work killing the algae and loses at a vicious game of 'catch up' trying to keep a reserve of chlorine in the water to effectively sanitize.

**Contaminants** - To ensure that the chlorine can keep up with destroying organic contaminants and oxidize ammonia and nitrogen compounds; using an enzyme on a regular basis helps break down contaminants and prevents scum line build-up so that the chlorine works effectively to sanitize the water.



## **Saline Support System**

*For maintaining salt water pools.*

### **Salinity Plus - Spring Opening**

*Advanced Formula for Easy Start-up. Developed to establish proper mineral levels, enhance water clarity, improve generator efficiency, help prolong cell life and prevent scaling and staining.*  
Opening your salt water pool is a breeze with Salinity Plus. This formula is specially blended to enhance water balance and improve water clarity. The advanced chemistry of Salinity Plus is designed to prevent staining and scale as well as improve your generator's efficiency and help prolong your generator's cell life.

### **Mineral Command - Weekly Maintenance**

*Designed to prevent the precipitation of scaling and staining from most common minerals extending cell life.*

Take command of stains and scale with Mineral Command. This highly concentrated formula is designed to prevent scaling and stop common minerals found in water from producing the following color and cloudy water issues:

- Iron turning water brownish red
- Copper turning water blue green
- Manganese turning water brownish black
- Calcium turning water cloudy

### **Saline 7 - Weekly Maintenance**

*Advanced Formula for Easy Maintenance. Developed to provide weekly maintenance with advanced chemistry to provide the perfect pool water environment for prolonged cell life.*

Salt water pool maintenance is simplified with Saline 7. This formula is specially blended to enhance water clarity and be an easy to use salt additive for weekly maintenance. The advanced chemistry of Saline 7 is designed to remove organic contaminants that can cause cloudy water. Saline 7 also goes the extra step to destroy the chloramines that cause eye burn and that strong "chlorine" odor. With fewer contaminants in the water, your generator works more efficiently which in turn helps prolong your generator's cell life!

### **Refresh - Weekly Maintenance**

*A unique stabilized enzyme system that catalyzes the bio-oxidation of oils, lotions, and other organic contaminants producing crystal clear water while prolonging cell life.*

Refresh is a unique stabilized enzyme system that catalyzes the bio-oxidation of body oils, suntan lotions and other organic contaminants. When used at the recommended dosage levels on a regular basis, Refresh provides multiple benefits. Refresh eliminates the primary components of the scum ring that forms around the water line in most swimming pools. These same components have a chemical oxidizer demand, cause cloudy water, clog filters and shorten filter runs. Using Refresh these problems are reduced through the bio-oxidation process producing crystal clear water while prolonging cell life.

### **Phos-Clear - Weekly Maintenance / Troubleshoot**

*Advanced, lab tested formula removes phosphates from pool water.*

Phos Clear is a specialty maintenance product proven to eliminate phosphates from fertilizers, rain water, soaps and other pollutants. Phosphates are the key nutrient for algae, and if phosphate levels are too high the salt water generator will have a hard time keeping up with chlorine demand.



# Troubleshooting

## ***We may not have covered everything...***

But we did try! We know that Murphy's laws were written for good reason. We hope this guide gives you a good starting point for understanding the 'hows' and 'whys' to basic pool and spa care and water chemistry. But, we fully admit there are products we have not covered and there are some topics your dealer would be best at assisting you with, like troubleshooting. But being that we are Phoenix Products, we pride ourselves on sharing our hard earned knowledge so here are some last minute tips for basic troubleshooting.

## ***Fun with Filters - Pools:***

Cloudy water. You've done everything you can chemically to try to fix your cloudy water problem, but with minimal results, then the issue may lie in your filter. The following are some helpful hints to try based on your filter type:

***Sand filter*** - If you find that filter pressure not building up - check your sand. Your sand could be getting old and allowing microscopic particles to pass through and accumulate in the pool. Older sand can also have displaced and formed a channel (tunnel in sand). Replace sand or redistribute with use of garden hose. You might also have an issue with particles so small that sand may just need some help with catching them - alum or Liquid Flocc would help.

***Above-ground pool*** - With an above-ground pool the skimmer is only way water is getting to the filter. If you find that the top foot of water is clear but rest is cloudy or milky, then the problem may lie in poor circulation. This basically means there is no water movement/circulation in bottom of pool. If you are able, direct your return jet stream so it angles slightly downward to get the water moving. If this doesn't improve the condition, attach your pool vacuum and position it at bottom of pool with vac head tilted on side - this will draw the water up and get it circulating through the filter system. Adding Super Pool Pruf clarifier is recommended and Flocc may also be necessary.

***Vinyl in-ground*** - If you find it's cloudy only in deep end of pool. Your problem lies in no circulation. To help restore good circulation back to your pool try (if you are able) to direct your return jet stream so it angles slightly downward to get the water moving. If this doesn't improve the condition, attach your pool vacuum and position it at bottom of pool with vac head tilted on side - this will draw the water up and get it circulating through the filter system. Adding Super Pool Pruf clarifier is recommended and Flocc may also be necessary.



## ***For Spas and Hot Tubs -***

It is recommended that you drain, clean and refill your spa or hot tub every three months or as needed.

### ***Cloudy Water -***

Possible causes:

Excessive organic contaminants -

Water out of balance -

Clogged filter -

Solutions:

Check sanitizer levels and shock if necessary.

Test and adjust pH, calcium and total alkalinity.

Clean with Cartridge Cleaner or Instant Cartridge Cleaner.

### ***White/Chalky deposits -***

Possible causes:

High mineral content -

Water out of balance -

Solutions:

Use Stain & Scale.

Test and adjust as necessary.

### ***Scum Line -***

Possible causes:

Bather waste

Solutions:

Clean with Spa Brite.

### ***Cloudy Green Water -***

Possible causes:

Sanitizer level low -

Solutions:

Shock and adjust sanitizer.

### ***Discolored water:***

#### ***Water turns brown, blue, green or black -***

Possible causes:

Excessive mineral content -

Low pH -

Solutions:

Add Stain & Scale.

Test and adjust as necessary.

### ***Excessive Foaming -***

Possible causes:

High contaminants or soap residues -

Solutions:

Add Foam Out and shock.



***Phoenix Products Company***

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