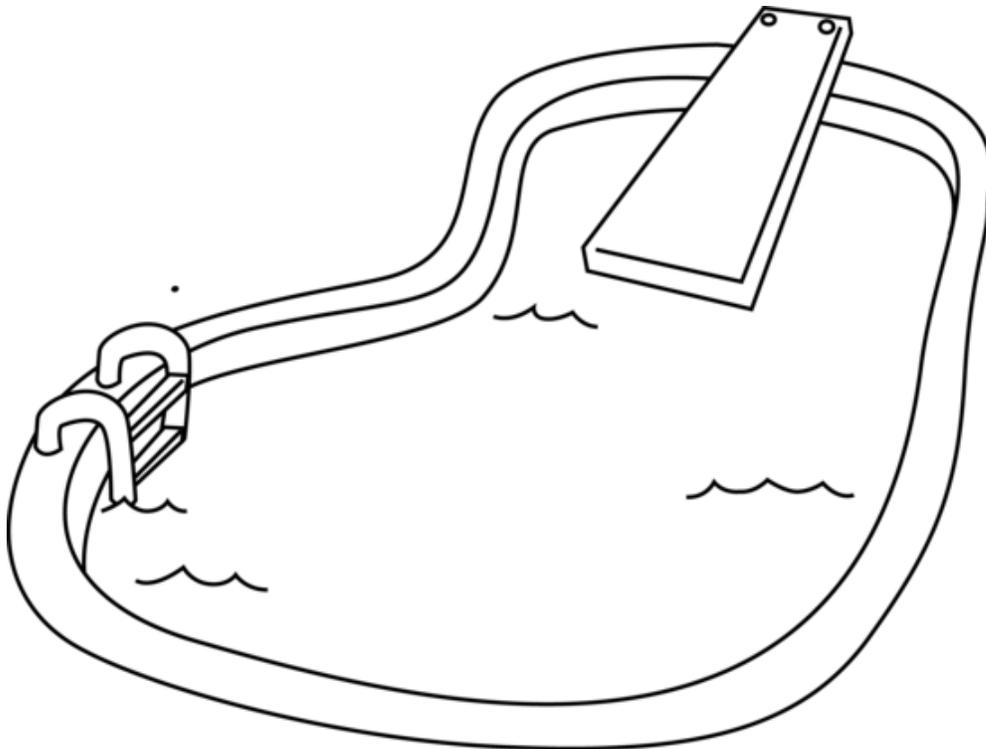




Understanding Your Chemicals



A Guide to Maintaining a Clean and Beautiful
Swimming Pool.

(Chlorine Tablet Systems)

Water Chemistry- The “WHY?”

The goal of water chemistry is to protect swimmers, protect pool surfaces and equipment and to achieve clear water for aesthetic purposes. A clear pool does NOT equate to balanced (and safe) water. Remember: Nail polish can be clear but we do not swim in that. Thus, the better the pool water chemistry is maintained, the SAFER your pool is, the longer your equipment will last and the better your water will look.

All water chemistry levels are determined and approved by the Association of Pool and Spa Professionals (APSP) and by pool and equipment manufacturers. Prestige Pools and Spas adhere to these standards.

What Will You Be Testing For?

There are three levels that you will test for and evaluate on a regular basis: Sanitizer, pH and Alkalinity. Whether it is an in-ground pool, above ground pool, swim spa or spa, standard water chemistry always cover these three principles. Keeping these three levels in the preferred range goes a long way to achieving a safe and sanitary pool environment.

Basic Chemicals You Will Need

Chlorine Tablets
Shock
Chlorine Stabilizer
PH Rise/Minus
Alkalinity Rise/Minus

Ideal Readings for Your Water Levels

Chlorine	1.0 - 4.0 ppm
PH	7.4 - 7.8 (7.6 Ideal)
Alkalinity	100 -150ppm

Sanitizers

All pools/spas employ a sanitization system to kill harmful bacteria and maintain water clarity. Chlorine is the most common sanitizer used today in residential pools. Through the years, the industry has developed several ways to distribute chlorine: As a tablet, as a liquid, as a powder, and/or via the salt system.

Chlorine: What It Does and How It Works

NaCl (Sodium Chloride) is the chemical compound in that is CHLORINE. Chlorine is available in tablet form (1" & 3" sizes), with the preferred chlorine compound in the industry being SODIUM TRI-CHLOR. Tri-Chlor, the most-gentle compound on pool surfaces, is recommended for vinyl-lined pools. Tri-Chlor is also able to reach 97% peak effectiveness, better than Calcium Hypochlorite (harsh on surfaces, less concentrated), Sodium Hypochlorite (liquid chlorine- has a short shelf-life & less concentrated) and Lithium Chloride (expensive, rarely sold over the counter). Chlorine's ideal range is 1.0 – 4.0ppm. As with any sanitizer, your pH must be within the ideal range to be effective (See pH section for info).

Shock

The effectiveness of chlorine is reduced by contaminants such as suntan lotion, body oils, urine and other nitrogen bearing particles. These wastes must be eliminated periodically to avoid problems such as cloudy water and odor. A simple process, shocking of tablet-based pools should be carried out every week during normal conditions to oxidize these unfilterable wastes. During hot or rainy weather, or when usage increases, shock more frequently.

In cases of extreme green and/or cloudy water, liquid shock reacts quicker to bring clarity to your pool, but only lasts for 24hrs. It's recommended using 1 gallon/10,000 gallons of water. Depending on the severity of the algae outbreak, it is advised to use up to 3-5x the normal amount.

- After shocking water, swimmers should wait at least 4- 8 hours before entering pool. It is recommended to shock your pool in the evening when the sun is down to eliminate burn-off.
- Super shock (granular or liquid) may be added directly to your pool or diluted.
- Adjust alkalinity and pH if needed before adding granular shock unless pool water is extremely green. Add liquid shock first and once water has shown signs of improvement, then proceed with adjusting other levels.

pH

For your sanitizer to properly function it is imperative that your pH level remains balanced whenever possible. In nature, pH measures the acidity or basicity of a solution. In water chemistry for pools, the measurable range is 6.4 to 8.4.

An ideal pH reading is 7.6, with a range of 7.2 to 7.8 being acceptable. When pH is balanced within this range, chemicals will work at its peak effectiveness. Lower pH levels may cause corrosion of your pool equipment, damage to your pool's finish and equipment (all of which is not covered under warranty), leaves metal deposits and can cause skin/eye irritation. High pH pulls metals from their sources and causes cloudy water. General imbalance on either end causes discoloration and loss of chlorine effectiveness.

Rains, topping off your pool and heavy bather loads are all actions that may cause your pH to fluctuate. pH is essential to your overall water chemistry: The more it is off, the more vulnerable your water is to bacterial/algae growth. Keep it within the ideal range at all times if possible.

Alkalinity

The alkalinity level, when balanced, acts as a buffer for your pH reading. For pools with a salt system, alkalinity levels should be kept between 100 to 150ppm. Elevated levels allow the metal components of your pool to become pitted, and pH levels to spike at a much faster rate. When levels are below ideal, metals will deposit upon pool surfaces, causing stains. General imbalance can cause the appearance of green or cloudy water while irritating swimmer's eyes.

Alkalinity and pH work hand and hand with each other. Generally, adjust alkalinity levels prior to addressing pH. As both are chemically similar, sometimes an adjustment to one level can partially or fully balance the other. Here is a chart to simplify the adjustment process:

IF PH & ALKALINITY ARE **BOTH HIGH** - ADJUST BOTH BY USING PH LOWER.

IF **PH IS HIGH** AND **ALKALINITY IS LOW** - ADJUST PH FIRST AND THEN ALKALINITY.

IF PH AND ALKALINITY ARE **BOTH LOW** - ADJUST ALKALINITY FIRST.

IF **PH IS LOW** AND **ALKALINITY IS HIGH** - ADJUST ALKALINITY FIRST AND THEN PH.

- When adding alkalinity or pH to the pool, add no more than 5lbs at a time of the same product (Wait at least 30 minutes before adding additional amounts). When adjusting both levels, wait at least 8 hours between first and second adjustments.
- For best results when lowering pH/alkalinity: Add dosages over several hours/days. Consult our water chemistry experts for specific instructions as necessary.

Stabilizer

Heat, U/V rays and general usage can accelerate chlorine loss. Stabilizer (Cyanuric Acid) prevents the loss of chlorine and extends the ability to kill bacteria and algae. Stabilizer is generally heavily applied at the beginning of the pool season, when a pool is drained and/or refilled, or whenever proper chlorine residual of at least 1.0 ppm cannot be maintained in a 24-hour period. Subsequent maintenance dosages may need to be applied throughout the season. Always test before adding stabilizer and check levels periodically. Maintain at least 30 ppm of stabilizer in your pool at all times.

- Add stabilizer very slowly to skimmer and do not backwash for 24 hours.

Stain & Scale / Stain X / Absorb-X

These metal removers prevent copper and iron from leaving deposits on the pool surface and protect the pool surfaces and filter system/heating components. Copper is the element that will turn blond hair green and must be masked. All water should be checked periodically for metal readings. Treating your pool for stains might be something you will have to maintain on a weekly basis to keep stains from returning, especially if you have source water that is high in pH/alkalinity.

- Stain & Scale can be used for maintenance on a weekly basis and can remove trace amounts of metals.
- Stain-X is more concentrated and is more effective on severe stains.
- Absorb-X instantly removes stains but does not remove metals. It should be followed up with a treatment dosage of Stain & Scale.

Majestic Blue/Pool First Aid Clarifiers

Cloudy water devoid of a greenish hue can indicate that the filter system is not grabbing the smaller particulate matter in your water. Majestic Blue will coagulate around the particles, making them larger and easier to filter. Use Pool First Aid for cases of extreme or severe cloudy water.

Algae

Algae are living airborne spores that multiply rapidly on warm, sunny days. It will also cloud and color the water. Algae spores constantly enter the pool, brought by wind, rain or even contaminated swimsuits or pool equipment/accessories. When conditions are right, an algae bloom can occur seemingly overnight. These conditions include: Imbalanced water, warmer temperatures, prolonged periods of direct sunlight and the presence of nitrates and/or carbon dioxide. A lack of proper circulation, filtration and sanitation may also be contributing to algae blooms. Persistent algae outbreaks can be treated with a weekly algaecide dosage and proper brushing of the entire pool surface.

Total Hardness

All water sources contain a certain amount of calcium and magnesium compounds. This is what we call the hardness level in the pool. Certain chemicals such as calcium hypochlorite can also add hardness to the pool. The current level should be between 100 to 400 ppm. Levels too high can cause cloudiness or scaling on the pool walls. Levels too low can cause etching of plaster pool finishes. To raise hardness, add hardness control accordingly. The only way to reduce hardness is dilution with fresh water (i.e.- drain the pool).

Test Regularly

Regular testing is the only reliable way to make sure water is chemically balanced. Use a quality test kit to monitor essentials such as Free Chlorine, Total Chlorine, Alkalinity, and pH. For accuracy, take a pool water sample about 18" below the surface, away from return jets and from several areas around your pool. Always use a clean container for collecting samples and test promptly for accuracy. Store test solutions in a cool dry place away from other chemicals and direct sunlight. It's recommended that you periodically take a sample to a pool professional for the most complete water analysis possible.

Keep Your Pool and Filter Clean

In season, your pool should be thoroughly cleaned on a regular basis. Your cleaning regimen should include the following:

- Skim Pool Surface
- Brush Walls and Floor
- Vacuum Pool (Do NOT vacuum in **BACKWASH** mode. Vacuum to **WASTE**).
- Clean out Skimmer Baskets
- Clean out Hair and Lint Basket (Attached to PUMP)
- Hose Down Pool Deck (Including spraying out the ladder cups)
- Maintain Filter System

Sand Filter Operation Tips

Your filter system is vital in helping your water chemistry produce a clear pool appearance. Here are some tips to avoid mishaps:

Changing Multiport Positions- Turning the handle on the multiport valve while the system is operating can damage the components. Turn OFF the power to the system and fully depress the valve handle to prevent damage to the valve seal.

Keep Filter Running- Your pump is designed to run at all times. This boosts filter efficiency and reduces stress on equipment. Our pools and filter systems are designed to turn the water over multiple times a day, ensuring cleaner water and allowing your salt system to work at its maximum efficiency.

Periodic Backwashing- A sand filter operates most efficiently during mid-cycle. Debris trapped in the sand bed actually helps the filter work better. Frequent backwashing reduces efficiency, and should only be backwashed when water flow becomes restricted. Check your pressure gauge - 5 to 10 psi over normal indicates it's time to backwash.

Rinse after Backwashing- This ensures a proper reset of sand in the filter and it purges your plumbing of all dirty water from the backwash cycle.

Change Your Sand- It is recommended that sand is changed every 3 to 5 years. To improve filter efficiency, use SAND RENU a few times per season towards the end of your sand's life cycle.

Final Thoughts

Your swimming pool should be a source of relaxation and fun. Don't obsess over it. Allow your chemicals sufficient time to work. Test your water chemistry once every 3 or 4 days for best results all season long.

- Take your water to a pool professional once or twice every month for a complete and thorough water analysis.
- Have one day a week to pamper your pool. This encourages good habits to develop.
- If heavy rains, heavy bather loads or extreme temperatures are present, shock every 3 to 4 days.
- The appearance of clear water doesn't necessarily mean it is comfortable or sanitary to swim in. Maintaining your levels of alkalinity and pH are crucial: It not only prevents the need for excessive chemicals but will extend the life of your pool's components.

When In Doubt - Contact Us!

We offer **FREE** water analysis - bring us an 8oz. water sample (as fresh as possible) for complete analysis. Our experts are highly trained and have over 40 years of water chemistry experience. Email water chemistry questions to **water@prestigepoolsandspas.com**

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