

CGT TECHNICAL

VINYL POOL MAINTENANCE MANUAL

Poolside

by CGT

**A GUIDE FOR THE CARE
OF YOUR VINYL POOL LINER MATERIAL**
FROM THE WORLD'S LEADING MANUFACTURER OF POOL LINER MATERIAL



Vinyl Pool Liner – Maintenance

Poolside by CGT Pool Liner Care and Maintenance Guide

Congratulations on selecting a Poolside by CGT vinyl liner as the perfect finish to your pool! With a beautiful, resilient Poolside by CGT vinyl pool liner, you have ensured that your pool remains a focal point of your backyard for years to come. With proper care and maintenance, the watertightness, smooth finish, and striking print of your liner will endure the elements and provide countless hours of lounging, entertaining, and fitness. Contained in this manual are some tips to ensure you get the most out of your pool liner.

Our Piece: What Poolside by CGT Does to Give Pools The Perfect Finish

Poolside by CGT has decades of experience in creating high-quality vinyl for pool liners. Our vinyl is specially formulated to give the best, most lasting appearance. We carefully select raw materials that keep colours bright, the liner flexible, and give extended protection against biological growth and pattern loss. We work closely with builders and other pool industry professionals to educate new – and seasoned – homeowners on the importance of maintaining the correct pool water chemistry.

Pool Water Chemistry Recommendations: A Fine Balance

‘Water balance’ is a commonly used phrase that often conjures memories of chemistry class and mathematical formulas. While some degree of calculation is required to keep chemicals in the proper ranges, the true meaning of balance is between the comfort and enjoyment of your pool, and the safety of effective sanitation.

Six main factors impact the chemistry of swimming pool water. Poolside by CGT’s recommendations for the optimal levels – and how often they should be checked – can be found in the table below:

Factor	Recommendation	Should be checked (minimum)
Total Alkalinity	80 – 120 ppm	Once per week
Calcium Hardness	200 – 400 ppm	Every four weeks
pH	7.2 – 7.6	Two or three times per week
Stabilizer (cyanuric acid, CYA)	20 – 40 ppm	Every two to four weeks
Free Chlorine	1.0 – 3.0 ppm	Two to three times per week
Total Dissolved Solids (TDS)	500 – 2000 ppm	Every four weeks

These recommendations have been adapted for residential pools from the **American National Standard for Water Quality in Public Pools and Spas**. There are minor differences in the recommendations made by vinyl manufacturers, liner fabricators, and pool dealers. As additional sources for water chemistry information, Poolside by CGT recommends reviewing resources from your dealer.

Each factor of water chemistry contributes to the overall ‘health’ of the pool. Some additional details about each factor, as well as the **order** in which they should be adjusted, follow below:

Check Total Alkalinity

Sometimes referred to as ‘carbonate alkalinity’ is a crucial parameter that impacts how well pool water naturally maintains its pH – a property described as ‘buffering.’ Regularly checking and maintaining alkalinity will help keep a stable pH. It is recommended to check and adjust alkalinity weekly, and before making other adjustments.

Check Calcium Hardness

Calcium hardness is related to the same ‘water hardness’ that can cause scale in sinks and showers. Below hardness levels of 200 ppm (i.e. water too soft), pool water can become corrosive to fittings, fixtures, grout, etc. Above 400 ppm (water too hard), water may become cloudy, or scale can form around the pool and liner. Check and adjust calcium hardness after confirming the alkalinity of the water.

NOTE* The occurrence of scaling may be the result of other factors. If seeing scaling on a pool within the normal calcium hardness range, contact your dealer.

Check pH

pH is the measure of the acidity/basicity of the pool water. Maintaining a pH between 7.2 – 7.6 will: 1) ensure comfortable swim conditions, 2) discourage liner wrinkling and discolouration, 3) allow chlorine within the recommended range of 1.0 to 3.0 ppm to keep the water and liner free of algae, bacteria, and mold. Adjust pH after confirming alkalinity and calcium hardness.

Check Water Stabilizer

Cyanuric acid (CYA) – commonly called stabilizer – is ‘like sunscreen for a pool.’ It prevents sunlight from destroying the chlorine, keeps the levels stable, and maximizes chlorine’s sanitizing ability. A concentration below 20 ppm will fail to keep the chlorine ‘stable’, and the chlorine levels will quickly decrease over time. Concentrations greater than 40 ppm may reduce how efficiently chlorine kills microorganisms in the water.

Check Free Chlorine Residual

Chlorine is the most common sanitizer used in swimming pools. It prevents the growth of microorganisms like bacteria and algae in the water. It is an efficient sanitizer at low concentrations, and when properly stabilized. Below a concentration of 1.0 ppm, chlorine is not very effective at killing microorganisms. Using more than 3.0 ppm does not improve the effectiveness of sanitization and comes at an

Target alkalinity
80-120 ppm

Target Calcium
Hardness
200 - 400 ppm

Target pH
7.2 - 7.6

Target Stabilizer
20 - 40 ppm



increased cost (\$). It is critically important to know that prolonged periods of elevated chlorine can damage the pool liner, causing premature fading or stiffness.

NOTE* How often the chlorine in a pool needs to be replenished is called the chlorine demand. A higher chlorine demand does not mean your chlorine levels should be kept higher than 3 ppm – it means it needs to be topped up more often. See the next section for some things that can affect chlorine demand, and if you're have trouble maintaining your levels between 1.0 and 3.0 ppm, consult your pool dealer.

Check Total Dissolved Solids (TDS)

Total dissolved solids are the combined 'stuff' that is dissolved in the pool water, including organics (oils from sweat, chemicals from skincare products, etc.), and non-organics (e.g. dissolved minerals). While not as necessary to regularly adjust as the other parameters, having a record of TDS will help to diagnose issues if changes in your water behaviour – like increased chlorine demand – take place.

A Word on Salt Chlorine Generators

Salt chlorine generators – the sanitizing system used in 'saltwater pools' – are a popular tool used to maintain the sanitizer levels of swimming pools. A common misconception about these generators is that they are a chlorine-free solution to pool sanitization.

Salt chlorine generators produce the same sanitizing chemical in the pool water that is present in traditionally chlorinated pools. In addition:

- The same water chemistry setpoints
- Same check frequency
- Adjust dosing
- Circulation

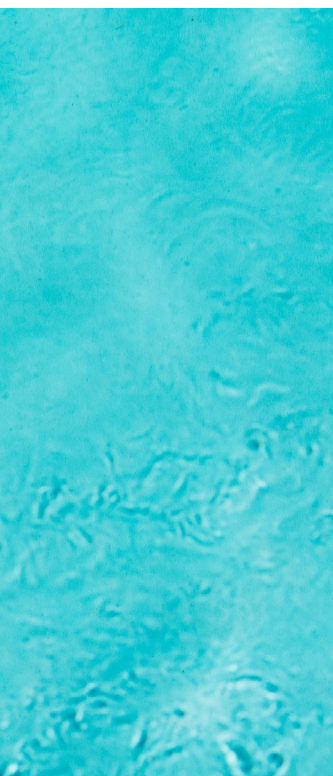
Your Pool is Unique! (Other Factors Affecting Your Water Chemistry)

While the recommended ranges for these chemicals are essentially the same for every pool, the work that goes into maintaining them can vary significantly from pool to pool. Developing an understanding of what makes your pool different from another takes time and effort. Below is a list of common factors that vary between pools, and some of the possible effects of these variances. It is not an exhaustive list – it is only meant to serve as a starting point for understanding what makes your pool unique.

- **Pool Volume:** Having an estimate of a pool's volume allows one to calculate how much of a chemical must be added to reach the desired concentration. It would also allow calculation of how much water needs to be replaced if sanitizer, hardness, or TDS need to be reduced. A key understanding is that contaminants from bathers or other sources will be more concentrated in smaller pools, meaning that adjustments need to be made more regularly.



- **Source (Fill) Water:** Depending on where source water comes from (e.g. city water, a well, a lake), differences in the characteristics like calcium hardness (or other mineral content), total dissolved solids (TDS), and even organic load will be seen from pool to pool. Having source water high in the mentioned characteristics will change how dilution influences your water chemistry, and other steps / products may be required. It is a great idea to know the quirks of the fill water.
- **Bather Load:** The number of people using a pool and how often it is used is called bather load. A higher bather load will require more frequent maintenance of water chemistry. Contaminants from bathers' natural skin oils, and suntan / skincare products affect the pH and chlorine residual in a pool. In addition, when pool water leaves the pool (from splashing, cannonballs, etc.) and is replaced with fill water, it is likely the concentrations of calcium and stabilizer will be affected. It is good practice to increase the frequency of chemical checks when your pool's bather load periodically increases (e.g. during a heatwave, having parties or houseguests, a new fitness routine).
- **Sun Exposure:** Ultraviolet (UV) light is the number one factor that decreases the chlorine concentration in a pool – especially if not stabilized. A pool in full sun will need to replenish chlorine more frequently than a pool that is shaded. Higher sun exposure also increases evaporation of pool water, meaning water will need to be replaced more often. Evaporation followed by refilling will cause changes in chemicals' concentrations.
- **Water Temperature:** Water temperature in a heated pool is largely a matter of personal preference, and in an unheated pool is related to the ambient temperature and sun exposure of the pool. It is recommended to maintain a water temperature between 26 and 28 °C (78 to 82 F). A higher water temperature is associated with more rapid changes in water chemistry, especially pH. CO₂ is constantly off-gassing from a pool, which gradually raises pH over time. This happens more rapidly at higher temperatures. pH will need adjustment more often during hot weather, and alkalinity should be checked more often.
- **The Pool Cover:** There are a handful of different pool cover types, ranging from low-tech solar pool covers, to anchored safety covers, to higher tech automatic pool covers. Covering a pool affects three main things: evaporation of pool water, off-gassing of chlorine and CO₂, and water temperature. For specifics on how a pool cover can affect a pool, see the section "Covering and Closing Your Pool."
- **Surrounding Environment:** Your pool does not exist in a vacuum! Environmental factors ranging from trees and grass around the pool to nearby farms may affect the pool water. Organic matter – living things like grass, leaves, or bugs – entering the pool by any means will increase the organic load of the water. What is more, organics may deposit stains on the liner if not cleaned out quickly. Chemicals used in your yard, or on a neighbour's yard/farm may also get into the pool water. Fertilizers may be organic (like manure) or inorganic in nature (nitrates, phosphates) and can influence organic load or scaling of the pool, respectively.



Best Practices for Adding Chemicals to a Pool – Calculate, Dissolve, Circulate

Many homeowners will choose to monitor and adjust their pool chemicals personally. This is a great practice that can save money when compared to hiring a service person and allows for more frequent checks / adjustments to the water chemistry. When starting out, a homeowner may not have the same experience in adding chemicals to the pool that a professional might, and so below are some recommendations to help avoid some common mistakes. If you take nothing else away, remember the motto: **Calculate, Dissolve, Circulate**.

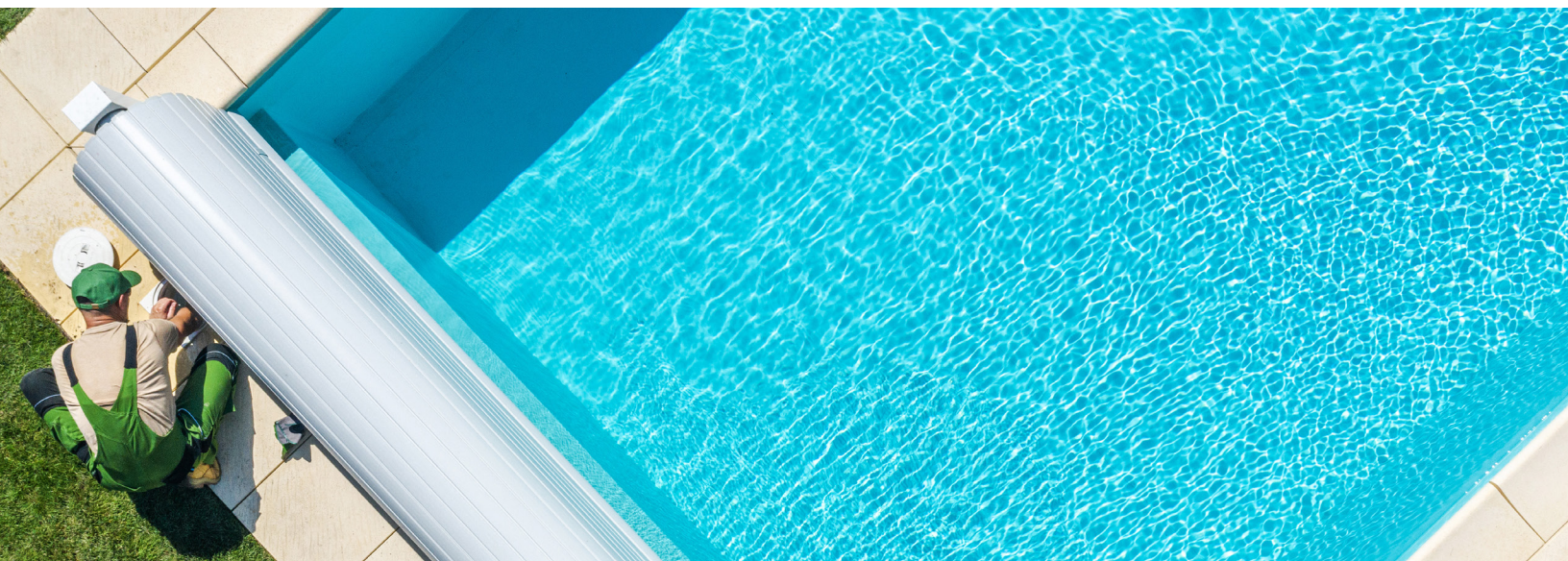
Before handling any chemicals, ensure you are wearing the correct personal protective equipment (PPE). It is highly recommended that safety glasses and protective gloves are always worn when working with chemicals. If handling powders, you should also consider wearing a dust mask or respirator.

- **Calculate** – Determine how much of a chemical must be added to go from the current concentration to a desired concentration. The simplest way of doing so is by using an app on a smartphone, tablet, or computer, such as Orenda's 'Pool Calculator and Education' app, or BioLab's 'Pool Time ClearPool Expert' app.
- **Dissolve** – Collect some pool water in a bucket, and into this water add the quantity of the chemical required. This can be done for both solid and liquid chemicals. Using a stir stick, mix the chemical into the water until the mixture appears consistent throughout. Add the contents of the bucket to the pool by pouring toward the middle of the pool, and not down the pool wall. Circulate the water for 10 – 15 minutes before adding additional chemicals.

NOTE* - Multiple chemicals should NEVER be mixed in the same bucket at the same time.
Dissolve them one at a time when making multiple additions.

- **Circulate** – Ensure that the pump and circulation system of the pool is running while chemicals are being added, and that it continues to circulate for some time – at least a few hours – after all chemical additions have been made. Circulating the pool after chemical additions is especially important prior to extended periods of time when the circulation will be turned off, such as going on vacation, or before closing for the season.

Poolside by CGT does not make recommendations about which specific chemicals or brands of chemicals to use in a pool. For these types of recommendations, contact your pool dealer.



Covering and Closing the Pool

Most homeowners will cover their pool at night, and when not in use. With the great increase in safety cover and automatic pool cover use in residential pools over the past few years, it is important to consider how keeping the pool covered may affect your water chemistry and your pool liner. Simply put, **it is highly recommended to uncover your pool a minimum of once per week for 2-3 hours to ensure that any gasses built up under the cover can escape.** It may be necessary to do so more frequently during very hot weather. The specific effects of a pool cover are below:

1. Decrease water loss through evaporation.
2. Helps prevent pool from losing heat. Note that darkly coloured covers may lead to warming of the water when it's very sunny!
3. Will trap gasses beneath the cover, not allowing them to escape.

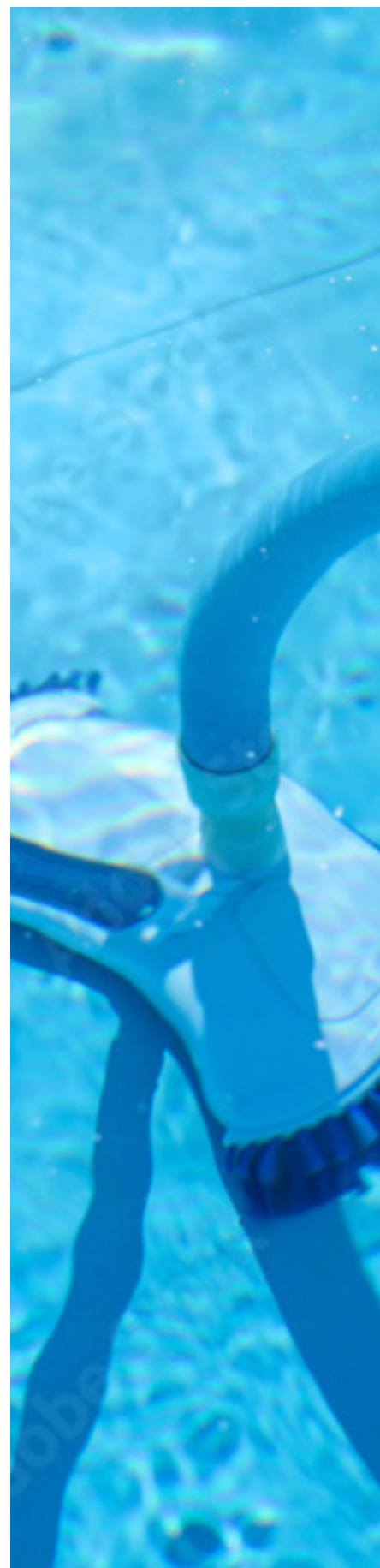
Closing a pool during the winter months is necessary in cold climates. When closing a pool, the water level will be lowered and circulation turned off for several months, and therefore steps must be taken to avoid high or unequal levels of chemicals in the pool that may cause liner appearance issues. In general:

1. Adjust the water level to the dealer's recommended level. NEVER drain the pool completely unless advised to do so. Inground pool lines are held in place by the weight of the contained water. Draining a pool completely can cause stretching / misshaping of the liner, which may lead to tearing.
2. Test the pool water and adjust as required to achieve recommended levels.
3. Circulate the water for 24 hours to avoid chemicals collecting at low points in the pool.
4. Clean and vacuum the pool from top to bottom.
5. Use a proper fitting winter pool cover, tightly sealed around the perimeter of the pool. It will prevent the accumulation of debris such as leaves and insects during the off-season.

Cleaning Your Poolside by CGT Liner

Every pool will need to be cleaned from time to time – this is not unique to vinyl-lined pools. However, the tools / cleaners used will vary depending on the construction material of the pool. Here are some guidelines for cleaning vinyl pool liners:

- **Types of Cleaners:** Two types of cleaners that should never be used on vinyl liners are organic solvents (e.g. paint thinner, nail polish remover, lubricants) and strongly acidic cleaners (e.g. muriatic acid, mineral acids, other cleaners with low pH). Water-based neutral or alkaline cleaners are the safest bet for direct contact with a vinyl liner. When trying a new cleaner, it is good practice to find an inconspicuous spot to test the cleaner before going 'all-in.' After



a cleaner has done its job, the area should be rinsed with water from the pool to ensure no residue is left behind.

- **Types of Brushes:** Brushes are a useful tool for removing some tougher dirt on a pool liner. Care should be taken when scrubbing a liner, as small scratches left behind by particularly firm bristles may cause an inconsistent or unappealing look on the liner. For this reason, having several brushes available is recommended. Starting with a microfibre cloth, or the softest brush available – like what one might use to clean their car – is best. Try a few cycles of applying cleaner and using a soft brush before moving to a firmer bristled brush. Plastic bristled brushes marketed as pool brushes are a good, heavier-duty option.
- **Other Cleaning Tools:** Highly abrasive cleaning tools like steel wool, scouring pads, scrunges, ‘magic erasers,’ and pumice stones should not be used to clean a vinyl liner. For highly persistent liner dirt, consult your pool dealer or a professional pool service person.
- **Steps for Preventing Hard-to-Remove Dirt:** “An ounce of prevention is worth a pound of cure” applies not only to modern medicine, but also to your pool liner. Perhaps the best thing that can be done to prevent dirt from building up around the border or on the bottom of the pool is to maintain a program of brushing and vacuuming the pool regularly. Frequency will vary with bather load, falling leaves, etc., but sticking to it will be worthwhile. In addition to the above-mentioned cleaning techniques, consider using a rag to wipe the water line of the pool once or twice per week. This area is troublesome for ‘scum’ buildup from skincare products, etc., which can be unsightly.

Should you have any questions about your pool, call your dealer – they are your pool professionals.



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CGT products are manufactured in accordance with
ISO 9001:2015, ISO 14001:2015, ISO 45001:2018

