Cal Spas Clear Water Plan™

Great spa water is easily achieved when the right chemicals are used and a Clear Water Plan is implemented. The key to clean, clear, safe water is to fully understand how spa water reacts to users, operation and chemicals. This Clear Water Plan will help give you that understanding.

IMPORTANT Chemical Safety Notices:

Chemical Directions:
- All directions in this program are calculated for Cal Spas chemicals only. Other chemicals may have similar names and/or usage descriptions. However, all chemicals are manufactured differently, increasing the likelihood of under or over dosing spa chemicals.
- Failure to follow chemical directions may result in serious injury, sickness and even death.

Chemical Usage:
- Always introduce chemicals to spa water with all pumps operating on high speed.
- Apply chemicals to the center of spa water.
- Always wear protective clothing and eyewear when handling chemicals.
- Spa users that notice skin irritation must immediately suspend spa usage and consult their physician.
- Pregnant women should consult their physician prior to using a spa for both chemical and temperature recommendations

Chemical Storage:
- Chemicals must be stored completely out of the reach of children in an area that is well vented, cool, and dry.
- Failure to provide a proper area for chemical storage may result in serious injury, sickness, fire, explosion and even death.

Physical Chemical Hazards:
- Do not allow chemicals to come in contact with skin, eyes or clothing. As mentioned previously, always wear rubber gloves, protective eyewear and clothing to reduce the risk of chemical contact and irritation.
- Remove and wash clothing that may have been exposed to chemical contact prior to wearing again.
- Inhaling or digesting chemicals will cause serious injury, sickness, and even death.
- Do not mix chemicals. Mixing chemicals together may cause chemical reactions that vary from poor water conditions to fire and explosion.

Cal Spas Clear Water Plan™

Safety:

1. This plan and its chemical dosages are intended for Cal Spas Chemicals only. Most chemical manufactures use different chemical formulas and strengths. Cal Spas' chemicals are specially formulated to provide proper chemical balance at lower dosages. Compare labels and dosages and see for yourself. You will get greater protection and performance with Cal Spas Chemicals.

2. Read and follow all printed instructions listed on bottles, packages and owner's manual.

3. Read and follow all printed instructions listed in chemical start-up kits. If Applicable, start-up kit chemicals are often more concentrated that the over the counter full size bottles.

4. Do Not Exceed Chemical Dosages Per Gallon as listed in the owner's manual, chemical bottles, packages, and kits. Most chemical instructions are figured for a 500 gallon spa. However, most spas hold less than 500 gallons. Always use less than the recommended amount of any chemical. It is much easier to add additional chemicals than it is to remove excess chemicals from the spa water.

   REMEMBER, LESS IS MORE WHEN DEALING WITH SPA CHEMICALS.

5. Never mix any chemicals together.

6. Never change chemical brands or types without completely draining, flushing and thoroughly cleaning the spa, pillows, and cover first.

7. Be careful not to add certain chemicals on the same day. (Refer to printed instructions on the chemical bottles, packages and Clear Water Plan.)

8. Always protect eyes while introducing chemicals into the spa. A slight breeze may cause powdered chemicals to blow into eyes. Pouring liquids may cause chemicals to splash into eyes. (Protective eyewear should always be worn when handling chemicals)

9. In the event of overdosing a sanitizing chemical (Chlorine , Bromine, etc.), immediately turn off power to the spa and proceed to drain spa water into a safe locally approved area. Carefully rinse pillows, jets, and spa surface with regular tap water. (Avoid spraying water directly into the equipment area.) Refill spa to proper water level, turn power back on, and then set the filtration time to "F6". This will allow water to completely circulate to minimize the risk of chemical damage to your spa. (See setting filtration section of the owner's manual for more information.)

Why is a Chemical Plan Important

Time and Expense:
A better understanding of spa chemicals and their usage will help protect you from ugly, unsafe water and the expense associated with clean up. In some cases, it is less expensive to drain the spa and start over than it is to add additional chemicals and filtration time cleaning up bad spa water.

Chemical Damage:
The most common reason for spa failure is chemical abuse or customer neglect. For example, the pump seal used on a typical spa is the same pump seal used to pump acid solutions for chemical companies. Yet this same pump seal will fail in numerous spas because the owners were not following a chemical plan. Chemical damage is not covered by Cal Spas limited warranty. So, in addition to wasted expenses on excess chemicals, you will find yourself with a huge expense of replacing chemically damaged parts. Even the brand(s) of spa chemicals that claim that they are not as harsh as chlorine or bromine, in fact, are. If you venture off some of these chemicals plans, the damage to your spa can be twice what chlorine or bromine damage would be.

The Bottom line:
It pays to stick with a simple chemical plan and use a measuring cup rather than the conventional, "Yep, that looks like about 2 ounces".

It sounds funny... but it is a huge issue, that can be easily avoided.

Stay with the Plan

Staying with the Plan:
Spa owners who enjoy the cleanest water with a minimum time investment, all have one thing in common: they use, and stay with a simple chemical plan. Most chemical manufactures offer a maintenance plan printed in a small booklet, which contains nothing more than how much to use. The Cal Spas' Clear Water Plan describes not only what and when, but why you need to use a particular chemical.

Avoiding Problems:
Spa water issues cannot be fixed immediately. It is much easier, less expensive, and a lot less time consuming to maintain spa water, than it is to troubleshoot and correct water issues. Ask yourself, which is easier, less expensive, and more convenient? Changing the oil in your car four (4) times a year, or replacing the car every two (2) years.
A chemical maintenance plan for your spa is not much different. Follow the Cal Spas' Clear Water Plan, or replace your spa every two years. We know you don't want to become a chemists. You just to enjoy your new spa. That is why the Cal Spas' Clear Water plan is so effective. Just 15 minutes, three days a week and you are ensuring your spa's future.

Clear Water Plan Advantages:
1. Chemical use is minimal.
2. Chemical odor is almost non-existent.
3. Pillows, Spa Covers, and Filter lids last for years.
4. Spa usage is more enjoyable.
5. Water is always clean, clear and safe.
6. Little time invested.
7. No smock required (Chemist Joke).

Spa vs. Small Pool?

Most people think of spas as nothing more than a small pool. In fact, nothing could be further from the truth. If anything, spas are more like an overgrown bathtub.

An average pool contains 30,000 gallons of water and operates at approximately 70˚ F (20˚ C).

An average spa only contains 350 gallons of water and operates at 100˚ F (38˚ C).

Since spas have more than 100 times less water than a swimming pool, they are very easily contaminated by bathers.

Example:
Although spa users don't realize it, they perspire a lot. An average person using a spa for one hour will leave approximately 3 pints of perspiration per 350 gallons. A swimmer exercising in a pool leaves approximately one pint of perspiration per 30,000 gallons.

This and other body waste such as skin, oil, and personal hygiene products are left in a very small amount of hot water. The spa becomes prime environment for bacterial growth. In addition, water evaporates leaving a stronger concentration of T.D.S. (Total Dissolved Solids).

As stated before, spas are nothing like swimming pools. The former needs more attention than you may have first thought.

This information is not meant to scare you. It is to make you aware of why a chemical maintenance plan is so important.

Most chemical programs don't provide this type of information to the average spa user. When in reality, without knowing what the possibilities are, you won't be able to prevent problems from occurring or correct them easily.

Cal Spas believes educated spa owners are more able of recognizing a potential problem and correcting it with little effort. Thus, improving the overall spa experience.

Filters and Filtration:

Exclusive Bio-Clean Filter Cartridge:
The average filter cartridge is designed to remove dirt, sand, minerals, phosphates, bather waste and other solids from the spa. Unfortunately, some spa owners fail to include filter cleaning as part of their chemical maintenance plan. Filters accumulate debris and become prime areas for bacteria growth.

The Cal Spas Exclusive Bio-Clean filter is the only antibacterial filter cartridge on the market today. What does this mean to you? Having a filter cartridge that prevents bacteria growth is simply added protection for those times you forget to clean the filter. We recommend that you only replace your spas filter cartridge with a Bio-Clean filter cartridge for ensured protection and peace of mind.

Why do I need to Clean the Filter Cartridge?
Even though the Bio-Clean filter can protect itself from bacterial growth, it still needs to be cleaned on a regular basis to maximize your spas performance and ensure that heating and filtration systems are functioning correctly. Most filter canisters are manufactured with a bypass. When a filter becomes full of debris, the bypass will open allowing water to flow around rather than through the filter. When this happens, your daily filtration cycles are no longer effective. Another casualty of a dirty filter cartridge, is the loss of water temperature. The spas heating system will only function with the proper amount of water flow through the system. An overloaded filter, can cause the heating system to become inoperable.

Cleaning the Filter Cartridge:
In addition to spraying the filter with a high pressure nozzle, deep cleaning the filter cartridge is also necessary. Even if the filter cartridge may appear clean, you will still need to deep clean it regularly. Minerals and other contaminates are very difficult to see and can get lodged deep into the filter fibers causing water flow issues.

You will need to have an extra filter cartridge on hand for the deep cleaning process. It is necessary to always have one filter either cleaning or drying, and the other installed in the spa. This process will double the filter cartridges overall life and performance.

Filter Cleaning:
1. Place the dirty filter into a bucket with 8 oz. of Liquid **Filter Cartridge Clean.**
2. Soak for a minimum of 24 hours.
3. Remove filter and spray clean with a water hose, and allow the filter to dry thoroughly. (Drying time should be a minimum of two days prior to reinstalling.)
4. Reinstall as described in the Clear Water plan.

Filtration:
Filtration is one of the most important steps you can take ensuring clean, clear water. Regardless of what some people may think, it is far more inexpensive to fix water clarity problems by filtering your spa than it is to use excessive amounts of chemicals, filtration times, and/or water replacement.

Cal Spas' filtration system simply draws contaminated water through the (Exclusive) Bio-Clean filter removing debris from the water. It then pumps the newly cleaned water back into the spa through various jets.

Spas equipped with the optional, Quest 2000 Ozonator will also receive ozone injection into the filtered water for further protection against contaminates during filtration cycles.

Filtration also ensures that chemicals are mixed thoroughly through the water, increasing performance.

Filtration Cycles:
All electronically controlled spas run two filter cycles every day, one every twelve hours. Either the low speed of a two speed pump or separate filter pump will perform the filtration function. We strongly recommend that you set your spas filtration time to the "F4" setting. (See the "Setting Filtration Cycles" section in the owner's manual.) This will allow the spa to filter for four (4) hours every twelve hours. If it seems like a lot, just remember the pool analogy.

Cloudy Water:

Cloudy Water:
Everyone experiences cloudy water at one time or another.

The number one cause of cloudy water is the spa user and the things they bring into the spa. As discussed before, the average spa holds only 350 gallons of water. What you bring into the spa will stay in the water for some time. Think of the spa as a thorough body wash. Everything that is in your clothes, skin and hair will be washed off and left in the spa water causing cloudy water.

1. Never wash the clothes that you wear into the spa in laundry detergent or fabric softener. Laundry detergent and fabric softener stays in your clothes no matter how well you rinse them. This causes cloudy and foamy water that is almost impossible to clean up. The only thing you can do is wait for it to filter out. Adding Spa Brite, in this case, will only further delay the spas ability to clear up.

2. Never enter the spa with sunscreen or lotion on your skin. Oil is very difficult to remove from the water, and can cause a reaction with some of the chemicals that you may add to your spa, further causing a cloudy water condition. It is best to rinse off prior to entering the spa.

3. Use caution when adding any chemicals to correct a problem. Most cloudy water problems are made worse by the spa owner adding chemical after chemical to correct a cloudy water problem that normally would have cleared up with a little Oxidizer Shock and filtration time.

4. Remember, swimming pool chemicals are completely different than spa chemicals. Entering a spa with wet clothes from a swimming pool can cause a possible chemical reaction to either the spa user and/or the spa water. Always rinse thoroughly when transferring between a swimming pool and a spa.

5. Clean the spas filter(s) regularly as described in the Cal Spas Clear Water Plan.

Spa Brite: (Water Clarifier)

Spa Brite:
This chemical is used to help clear up cloudy water.
The problem that most spa owners run into is being able to identify when Spa Brite should be used and when it should not be used.

Spa Brite's only purpose is to draw very light debris together and making them large enough to be caught in the filter.

If your water clarity issue is caused by excessive amounts of oils, soap, or bacteria elements, Spa Brite will only add to the clarity problem; an oily, clumpy mess will form around the entire water level of the spa.

How to use Spa Brite:
1. Make sure that your clarity issue is not of an oily, soapy, or bacterial nature. (See Filter, Enzyme Oil Gone, or Oxidizer Shock sections for these issues.)

2. Add 2 oz. of Spa Brite to a spa running on filter speed. Allow spa to filter until water is clear. We recommend placing your spa in filter mode "FC" (24Hour filtration Mode) during this time. (This may take some time, so be patient. See the Setting Filtration Cycles section in your owner's manual.)

3. Clean filter thoroughly between, and after each application of Spa Brite.

Enzyme Oil Gone: (Oil Remover)

Enzyme Oil Gone:
This chemical will help break-down excessive amounts of body and other oils in the spa water.

Body oil, perspiration, lotions and tanning oil will quickly accumulate in your spa if your not careful.

The best solution is prevention. Always watch what goes onto your body because it will eventually end up in your spa water.

How to Use Enzyme Oil Gone:
1. Add 1/2 oz. of Enzyme Oil Gone to a spa running on filter speed. Allow spa to filter until the spa water no longer feels or looks oily. We recommend placing your spa in filter mode "FC" (24 Hour Filtration Mode) during this time.

   (See the Setting Filtration Cycles section in your owners manual.)

2. You may find the need to add this product to your weekly chemical maintenance plan. If so, simply repeat step one (1) once a week. (Weekly dosages do not generally require additional filtration time.)

Water Temperature and Its Effects:

Water Temperature:
The actual water temperature will greatly effect how efficient your spas chemistry is.

Here is an example of what hot water can do to your water and chemicals.

Hot Spa Water: (100˚ - 104˚ F)
1. Increases water evaporation.
2. Increases chemical dissipation.
3. Increases amount of spa user waste.
4. Accumulation of minerals and salts.
5. Increases Total Dissolved Solids (TDS).

As you can imagine, there is an inverse effect with cooler water temperatures.

Does this mean that you should not operate your spa at higher water temperatures? No. We just want you to be aware that your chemical usage will increase or decrease with the actual water temperature.

Water pH and its Effects:

Water pH: (Potential Hydrogen)
pH is the measurement of the acidic level of water. The normal range of your spas pH level is between 7.2 to 7.8 and can be tested with simple test strips. What will happen to my spa with pH levels either too high or too low?

Low pH:
The lower your pH, the more acidic your water will become. That's right. Acid! Effects of low pH are, dissolving or pitting heaters, manifolds, pump seals, and in some cases the acrylic finish itself.

High pH:
The effects of high pH are increased scaling, calcium deposits, cloudy water, clogged filters and effectiveness of you sanitizers: Chlorine and Bromine.

What Affects the pH:
Everything that is introduced into the spa water has its own pH level, including you. All of these different pH levels can cause conflict with the spa waters ability to maintain its correct pH levels.

Water pH and its Effects: (Cont.)

Example:
Spa owners that use their spa three (3) or four (4) times a week will have lower pH than spa owners who use their spa once or twice a week. Even the sanitizers (Bromine, Chlorine, etc.) that you use can effect the water's pH levels. Did you know that Bromine has a pH level of 3.0 while chlorine has a pH level of 7.1. Other types of sanitizers have pH levels so low, it's like adding straight acid to your spa.

Be very careful of what you are putting into your water.

Chlorine Users:
Chlorine is very sensitive to pH levels. Readings higher than 7.8 will cause chlorine users to use twice the amount of chlorine to maintain a proper level. If your are using excessive amounts of chlorine with little effect, check the pH and Total Alkalinity levels.

Controlling pH:

Controlling pH: (Potential Hydrogen)
1. Always follow printed instructions on the bottle and/or packages.
2. Always adjust Total Alkalinity and Sanitizers first.
3. Chlorine users will generally use more "pH / Alkalinity Down."
4. Bromine users will generally use more "pH / Alkalinity Up."
5. Make sure test strips are not wet or outdated prior to testing.
6. Never test immediately after using oxidizer shock.
   (Allow 30 minutes of circulation with the spa cover half off prior to testing.)
7. Always add chemicals when the pump(s) are on high speed.
8. Always premix "pH Alkalinity Down" chemicals in half a bucket of water prior to introducing them to the spa.
9. Never attempt to adjust pH or Total Alkalinity in large increments. Adjustments are made easier, and will stay set longer if you make them in small increments.

Do Not Use Vinegar or Baking Soda to adjust pH and Total Alkalinity:
Vinegar:
You would need to use 100 times the amount of vinegar to equal 1/2 oz. of Cal Spas "pH / Alkalinity Down". Vinegar will also add a large amount of organic waste in the spa water requiring the need for more sanitizers.

Baking Soda:
Although very similar to common baking soda, "pH / Alkalinity Up" is different. The primary difference is pH Alkalinity Up's ability to dissolve quickly. Common baking soda will cause a paste like substance to accumulate on the floor and seats of your spa.

What is Total Alkalinity?

Water Total Alkalinity:
Total Alkalinity is the basic capacity of the spa water to resist change in the pH.

When the alkalinity is low, the pH and alkalinity will change very easily with bather use or chemical adjustment. The opposite will happen when the alkalinity is high. It will take a lot of bathers or chemicals to change the pH and alkalinity levels.

The optimum Total Alkalinity level is between 80 to 100 parts per million (ppm).

Controlling The Total Alkalinity:

Controlling The Total Alkalinity:

1. Always follow printed instructions on the bottle and/or packages.
2. Always adjust Total Alkalinity and Sanitizers first even if it throws the pH further off.
3. Chlorine users will generally use more “pH / Alkalinity Down.”
4. Bromine users will generally use more “pH / Alkalinity Up.”
5. Make sure test strips are not wet or outdated prior to testing.
6. Never test immediately after using oxidizer shock. (Allow 30 minutes of circulation with the spa cover half off prior to testing.)
7. Always add chemicals when the pump(s) are on high speed.
8. Always premix “pH Alkalinity Down” chemicals in half a bucket of water prior to introducing them to the spa.
9. Never attempt to adjust pH or Total Alkalinity in large increments. Adjustments are made easier, and will stay set longer if you make them in small increments.

You will be using the same chemicals to lower the pH and Total Alkalinity. (Cal “Spas pH / Alkalinity Down” and “pH / Alkalinity UP.”)

This does create concern with some people of throwing off one level to correct another.

It is recommended to throw off the pH level in an effort to adjust the alkalinity level properly first. This will make it easier to adjust and maintain the pH.

Questions and Answers

Q: My pH is low and the Total Alkalinity is high. What do I do?
A: Add small amounts of “pH / Alkalinity Down” to bring down the alkalinity level first. Be sure to allow plenty of circulation and standing time for the waters chemical levels to change. This may take anywhere from one (1) to three (3) hours depending on the size of the adjustment. (Smaller adjustment amounts are always better than larger adjustments.) Then you may start adjusting the pH back up, by using “pH / Alkalinity Up”in small amounts at a time.

Q: My pH is high and the Total Alkalinity is low. What do I do?
A: Add small amounts of “pH / Alkalinity UP” to bring up the alkalinity level first. Be sure to allow plenty of circulation and standing time for the waters chemical levels to change. This may take anywhere from one (1) to three (3) hours depending on the size of the adjustment. (Smaller adjustment amounts are always better than larger adjustments.) Then you may start adjusting the pH back down by using “pH / Alkalinity Down” in small amounts at a time.

Calcium and Scale:

Calcium is one of the few minerals that does not dissolve in hot water. In fact, hotter water makes calcium more of a solid, gritty, chalky substance that attaches itself to the acrylic finish, heater, and everywhere else in the spa. We refer to these conditions as “Scaling”. High pH can also increase the effects of this condition. If left untreated, scaling causes heater, pump, and jet failures; all, of which, are not covered by the spa warranty.

Prevention and Treatment:

1. Never allow the spas water temperature to exceed 104˚F.
2. Check the pH levels and adjust if necessary at least 3 times a week.
3. Never allow the pH level to exceed 7.8.
4. Use “Metal Protector” every time you fill your spa. (See printed instructions on Bottle.)
5. Use “Stain and Scale Defense” weekly as described in the Clear Water Plan.
6. Applying Cal Spas “Fast Sheen” to the spas acrylic surface when you drain and clean your spa will greatly help your spas finish protect itself from scale build-up.

Calcium Clean-up:

Unfortunately, there is very little that can help you remove calcium or scale completely in a spa. Prevention is the key.

Cleaning:

When you drain the spa, clean the surface with Cal Spas “All Purpose Cleaner” and rinse well.

Calcium Hardness: (Hard and Soft Water)

Do Not Use Soft Water When Filling Your Spa

This is primarily for two reasons.
1. Soft water tends to be very unstable. This means that locking-in pH and Total Alkalinity levels becomes difficult.
2. Soft water becomes quite foamy with very little turbulence. No amount of "Foam Gone" will stop it from foaming for very long.

What does this mean?

Your spas water needs to have some hardness to it.. If you live in an area where the water source is soft, you will need to add 1 oz. of "Liquid Hardness Increaser" to raise water hardness level 7 ppm at a time. This will make your water more manageable.

Please follow all printed instructions on the bottle and use in very small increments.

Well Water (Very Hard Water)
In some areas, the water that you have may be very hard (i.e. well water). If this is so, fill half of the spa with hard water and the other half with soft water from a water softener.

Metal Protector (Mineral Control at Start-up)

Your Cal Spas' Clear Water Plan recommends draining and refilling of your spa every three (3) to four (4) months. Upon doing so, you will want to add 3 oz. of Metal Protector to the center of the spa. Make sure all of the jets are on high speed.

Metal Protector will hold the active minerals in the newly added spa water in a state of "Solution". The term solution means that minerals in the water are being held in a suspended state, keeping them from bonding to anything in the spa and causing damage. Mineral control is a critical part of maintaining spa components' performance and longevity.

In addition to fill-up protection from minerals, the Clear Water Plan also recommends the weekly maintenance of mineral protection. This is accomplished by a adding a weekly dosage of Stain and Scale Defense. (See the following page for more information.)

DO NOT USE SPA BRITE OR LIKE PRODUCTS, ON THE SAME DAY YOU ADD METAL PROTECTOR TO THE WATER. Adding these chemicals on the same day will result in cloudy water.

Stain and Scale Prevention (Weekly Mineral Control)

As part of your Cal Spas' Clear Water Plan, weekly protection from minerals are also highly recommended. Add water to your spa weekly, replacing water that has evaporated or spilled over.

Due to water replacement and overall chemical fluctuation, Stain and Scale Defense is an important part of weekly spa maintenance to prevent minerals from damaging spa components and effecting performance.

Weekly Dosage:
Add 2 oz. of Stain and Scale Defense weekly directly to the center of the spa with all of the jets on high speed.

DO NOT USE SPA BRITE OR LIKE PRODUCTS, ON THE SAME DAY YOU ADD STAIN AND SCALE DEFENSE TO THE WATER. Doing so will result in cloudy water.

Foam Gone (Foam Prevention and Assistance)

As mentioned on previous pages, foamy spa water can be caused by soft water. However, the most common causes of foamy water are the users themselves and the things they bring into the spa. (i.e. clothes, shampoo, and oils.)

Products such as Foam Gone, only mask the problem of foamy water. There is no single chemical that will remove foam from your spa water. The only thing that removes contaminant's that cause foamy water is plenty of filtration, future prevention, and patience.

Foamy Water Prevention:

1. Never wash the clothes that you wear into the spa in laundry detergent or fabric softener. Laundry detergent and fabric softener stays in your clothes no matter how well you rinse them. This causes cloudy and foamy water that is almost impossible to clean up. The only thing you can do is wait for it to eventually filter out.

   Note: Adding water clarifier in this case will only further delay the spas ability to clear-up.

2. Never enter the spa with sunscreen or lotion on your skin. Oil is very difficult to remove from the spa water, and can cause a reaction with some of the chemicals that you may add to your spa. In addition, soap and shampoo residues that are normally left on your body after a shower, only increase foamy and cloudy water. It is best to rinse off prior to entering the spa in these cases.

Use of Foam Gone:

Foam Gone should be used sparingly. This product does not remove foam from your water, it only offers a temporary solution.

The recommended amount requires one gentle squeeze of the Foam Gone bottle to each of the heavy foaming areas.

Be sure to avoid applying Foam Gone near the immediate filter area of your spa; it is only effective in the main area. Once filtered out, the water will start to foam in a short amount of time, causing you to use more Foam Gone.

Tip: Add 3 oz. of Foam Gone and 29 oz. of water into a 32 oz. spray bottle and spray where needed.

Vinyl & Leather Cleaner (Cover and pillow maintenance)

Due to the constant punishment your spa cover and pillows receive, you should protect them by applying Vinyl & Leather Cleaner as a part of monthly maintenance. Cal Spas' Vinyl & Leather Cleaner is specifically designed to protect spa covers and pillows from chemical and ultraviolet damage. It accomplishes this without leaving an oily residue behind that is normally associated with common automotive vinyl protectants.

Use of Vinyl & Leather Cleaner:

Cal Spas' Vinyl & Leather Cleaner should be used sparingly. Incorrect product usage may cause water clarity issues.

Spa Covers:

1. Remove spa cover from spa.
2. Allow spa cover to dry completely.
3. Spray Vinyl & Leather Cleaner to cover evenly and wipe dry.
4. Allow spa cover to dry completely.
5. Reinstall cover on spa.

Pillows:

1. Wipe pillows dry with a soft cloth.
2. Carefully spray Vinyl & Leather Cleaner directly onto pillow.
3. Wipe pillows dry.
4. Allow pillows to dry completely.

Important: Do not use automotive vinyl protectants on spa covers or pillows. These products are generally oil based and will cause severe water clarity issues that are difficult to correct.

Multi-Purpose Cleaner (Spa finish cleaning)

Cal Spas' Multi-Purpose Cleaner is an essential part of maintaining your spas finish. Through normal use, the spa's finish can accumulate dirt, oil, and calcium causing a rough feel and unsightly scum lines. Cal Spas' Multi-Purpose Cleaner is a low detergent, non-abrasive cleaner specifically formulated to clean the spa without damaging its acrylic finish. The most effective solution to minimize cleaning time is prevention. When the following steps are followed, the spas finish will actually start to resist most of the elements that cause calcium build-up and make scum line cleanup easier:

Prior to Spa Start-up and Refilling:

1. Spray Cal Spas' Multi-Purpose Cleaner directly to the spas finish.
2. Wipe clean with a clean soft cloth.
3. Repeat on heavily calcified areas.
4. Wipe spa thoroughly with a wet sponge, rinsing often in a bucket of clean water.
5. Allow spa to dry completely.
6. Apply a coat of Cal Spas' Fast Sheen to the spa entire finish with a soft cloth or sponge.
7. Allow Fast Sheen to dry until white and powdery.
8. Buff clean with a soft cloth, rotating frequently.

Periodic Maintenance:

1. Spray Cal Spas' Multi-Purpose Cleaner directly to the spas finish.
2. Wipe clean with a clean soft cloth.
3. Wipe spa thoroughly with a wet sponge, rinsing often in a bucket of clean water.

Use of Cal Spas' Multi-Purpose Cleaner:

Cal Spas' Multi-Purpose Cleaner should not be spayed directly into the spa water. Incorrect product usage may cause water clarity issues.

Fast Sheen: (Spa finish protecting wax)

Cal Spas Fast Sheen is an essential part of maintaining your spas finish. Through normal use, the spas finish can accumulate dirt, oil, and calcium causing a rough feel and unsightly scum lines.

Cal Spas Fast Sheen is a non-oil based wax that is specifically formulated to protect the spas finish from the chemicals and minerals associated with normal spa use.

The most effective solution to minimize cleaning time, is prevention. When the following steps are followed, the spas finish will actually start to resist most of the elements that cause calcium build-up and make scum line cleanup easier:

Prior to Spa Start-up and Refilling:

1. Spray Cal Spas' Multi-Purpose Cleaner directly to the spas finish.
2. Wipe clean with a clean soft cloth.
3. Repeat on heavily calcified areas.
4. Wipe spa thoroughly with a wet sponge, rinsing often in a bucket of clean water.
5. Allow spa to dry completely.
6. Apply a coat of Cal Spas' Fast Sheen to the spa's entire finish with a soft cloth or sponge.
7. Allow Fast Sheen to dry until white and powdery.
8. Buff clean with a soft cloth, rotating frequently.

Important:

Cal Spas Fast Sheen should not be used on spas full of water. Only apply to a clean, cool, dry surfaces. Incorrect product usage may cause water clarity issues.

Sanitizers: (Bromine and Chlorine)

How Sanitizers Work:
Sanitizers such and Bromine and Chlorine, basically kill bacteria and other organic waste by breaking them down to unharmful levels, thus eliminating them from the water.

You will need to know how each sanitizer performs this task to maximize their efficiency.

Bromine:
Bromine is generally in tablet form, and requires a small plastic floater to dissolve slowly into the spa water.

With a proper understanding of how it works, it is quite an effective sanitizer, with a bonus of low chemical orders.

Unlike chlorine, bromine can breakdown bacteria and other contaminates to a safe level, then move on to other contaminates with a low burnout rate.

The problem that most spa owners have with bromine is that they don't follow a chemical plan, allowing the bromine tablets to completely dissolve out of the floater. This causes bromine level to go up and down like a Yo Yo.

Not what you want from a sanitizer.

As mentioned before, bromine dissolves slowly into the water. The proper way to manage a bromine system is the following:

Sanitizers: (Bromine and Chlorine)

Bromine Management: (500 Gallon Spas at 100˚ F)
Start-up:
1. Add 2 oz. of Go Bro into the spa with all of the jets on high speed. This is your base bromine level as the tablets will take awhile to dissolve enough to manage 500 gallons of water.
2. Add 2 oz. of Oxidizer Shock into the spa with all of the jets on high speed and the spa cover at least half off for 30 min. This will remove any organic materials that may have been left in the plumbing lines after its last draining.
3. Start by placing 3 to 4 bromine tablets into 95% closed plastic floater and place into the spa. (Do not place bromine tablets into the filter basket.)

Weekly:
1. Test Bromine level with test strips. Note: Bromine Test levels will vary if spa is equipped with Quest 2000 Ozonator.

Test Levels **With** Quest 2000 Ozonator: 1 to 3 Parts Per Million (ppm)
Test Levels **Without** Quest 2000 Ozonator: 3 to 5 Parts Per Million (ppm)

2. Add one or two bromine tablets to the floater weekly.
You want to replenish the same amount of bromine tablets equal to the tablet dissolve rate. (Dissolve rate will be faster at higher water temperatures and slower at lower temperatures.) NEVER LET BROMINE TABLETS RUN COMPLETELY OUT OF THE FLOATER.

3. Add 2 oz. of Oxidizer Shock weekly into the spa with all of the jets on high speed and the spa cover at least half off for 30 minutes. This will remove organic material from the spa water, freeing-up your sanitizer to attack more bacteria, and other waste. This improves your sanitizers performance level, reduces spa odor, and refreshes your spa water.

Sanitizers: (Bromine and Chlorine)

Chlorine:
Chlorine is generally in liquid form. However, in spa applications you will only want to use Granular Chlorine. This is primarily due to Chlorine type and strengths. Unlike Bromine, chlorine can only breakdown bacteria and other contaminates to a safe level once, prior to burning out. The problem that most spa owners have with chlorine, is that levels either get too low from neglect, or too high from trying to play chemical catch-up. As with all spa chemicals, LESS IS MORE. Take your time whenever adding chemicals to the spa water. Allowing proper filtration time and adding chemicals slowly, will greatly improve the length of your spa life and performance. You cannot super chlorinate spas and expect them to last. Be patient and stay with the plan.

Granular Chlorine:
Weekly:
1. Test Chlorine level with test strips. Note: Chlorine Test levels will vary if spa is equipped with Quest 2000 Ozonator.

Test Levels **With** Quest 2000 Ozonator: 0.5 to 1 Parts Per Million (ppm)
Test Levels **Without** Quest 2000 Ozonator: 1 to 3 Parts Per Million (ppm)

2. Add 1 to 2 tablespoons of Cal Spas' Granular Chlorine to the spa water weekly. Chlorine dissipation rate will be faster at higher water temperatures and slower at lower temperatures.

3. Add 2 oz. of Oxidizer Shock weekly into the spa with all of the jets on high speed and the spa cover at least half off for 30 minutes. This will remove organic material from the spa water, freeing-up your sanitizer to attack more bacteria, and other user waste . This act greatly improves your sanitizers performance level and reduces spa odor.

Oxidizer Shock:

Shock:
All shock is not created equal. The most common shock you will find in pool and home improvement stores is Chlorinating Shock. This will destroy your spas Jets, Pillows, Pump Seals and worse. The only shock that you should put in your spa is Cal Spas' Oxidizer Shock! Oxidizer shock is the safe, easy way to maintain either Bromine or Chlorine spa chemical plans. By using 1 oz. weekly, you are removing burnt-out chemicals, bacteria, and other organic material from you spas water. This will drastically improve chemical productiveness, spa odor, and minimize chemical irritation.

Using Oxidizer Shock:
1. 1 oz. of Cal Spas Oxidizer Shock* Weekly.
2. 1 oz. of Cal Spas Oxidizer Shock* after heavy bather loads.
3. 1 oz. of Cal Spas Oxidizer Shock* if water has a strong odor.

*Spa must be running with all of the jets on high for 30 minutes with the cover half off. If necessary you may repeat Oxidizer Shock treatments in 30 minute intervals.

Big Water Clarity Issue?
1. Identify the water clarity issue first: Is it Soap, Oil, Bacterial, or Chemical Imbalance.
2. Select the proper treatment.
3. Clean the filter cartridge and increase the amount of filtration until the water clears-up.
4. Add 1 oz. of Oxidizer Shock at a time, in 30 minute intervals, with the spa cover at least half off. Make sure all of the jets are on high.
5. Be patient! With few exceptions, spa water will not clean or clear-up overnight. Cloudy water requires proper identification, the correct treatment, and plenty of filtration.

Cal Spas Clear Water Plan (Start up)

Prior to filling a spa for the first time or after a routine draining, you will want to follow this start-up plan to extend water life and performance.

If you are following either Bromine or Chlorine Clear Water plans, you will notice that both start up processes are the same with the exception of step 4.

As with all chemical dosages listed in the Clear Water Plan, start up dosages are intended for 500 gallon spas. Please adjust chemical dosages to the gallon capacity of your
particular spa.

Start up: (500 Gallon Spas)

1. Clean spa thoroughly with Cal Spas Multi-Purpose Cleaner.
2. Apply a protective coat of Cal Spas Fast Sheen to the Acrylic surface.
3. Fill spa to proper water level with normal tap water. (Do not use soft water.)
4. Bromine Plan: Add 2 oz. of Cal Spas Go Brom to establish a Bromine base level Chlorine Plan: Add two tablespoons of Cal Spas Granular Chlorine to the spa water .
5. Pour in 3 oz. of Cal Spas Metal Protector to the center of the spa.
6. Sprinkle 2 oz. of Cal Spas Oxidizer Shock in the center of the spa and leave spa uncovered and turn on the jets for 30 minutes prior to recovering.
7. Allow 24 hours prior to testing and implementing the Bromine or Chlorine Clear Water Plans.

Cal Spas Clear Water Plan (Bromine)

Bromine users

This plan and its chemical dosages are intended for Cal Spas' Chemicals only. Most chemical manufactures use different chemical formulas and strengths. Only Cal Spas' chemicals are specially formulated to provide proper chemical balance at lower dosages. Compare labels and dosages and see for yourself. You will get greater protection and performance with Cal Spas' Chemicals.

Always read and follow all printed instruction on chemical bottles and packages.

Day One (Monday)

1. Test spa water using test strips. (Be sure to check the expiration date prior to use.)
2. Add two bromine tablets to floater. (Amount of tablets needed will vary with water temperature.)
3. Adjust Total Alkalinity, then pH if needed. (See pH and Alkalinity sections for more information)
4. Add 2 oz. of **Stain and Scale Defense**.
5. Pull the dirty filter from the spa and place into **Liquid Filter Cleaner** solution.
6. Place your extra, cleaned, fully dried filter cartridge in the spa.
7. Vacuum your spa with the **Cal Spas Vac**.

Day Two (Wednesday)

1. Test spa water using test strips. (Be sure to check the expiration date prior to use.)
2. Adjust Total Alkalinity, then pH if needed. (See pH and Alkalinity sections for more information.)
4. Pull the filter from **Liquid Filter Cleaner** solution, hose it off and allow to dry.

Cal Spas Clear Water Plan (Bromine cont.)

Day Three (Friday)
1. Test spa water using test strips. (Be sure to check the expiration date prior to use.)
2. Check bromine floater for sufficient amount of bromine tablets. (Add one if necessary.)
3. Adjust Total Alkalinity, then pH if needed. (See pH and Alkalinity sections for more information.)
4. Add 1 oz. of **Oxidizer Shock**. (See Oxidizer Shock section for more information.)

Every Month:
1. Inspect equipment area for leaks, rodents, and insects.

Every 3 to 4 Months:
1. Drain and clean your spa with **Multi Purpose Cleaner.**
2. Polish the acrylic surface with **Fast Sheen.**
3. Clean and treat spa cover, pillows and Ultra Spa Cabinets with Cover Protector.

Every 6 Months:
1. Clean and treat redwood spa cabinets and gazebos with **Nu-Spa** redwood stain renewer & brightener.

Cal Spas Clear Water Plan (Chlorine)

This plan and its chemical dosages are intended for Cal Spas' Chemicals only. Most chemical manufacturers use different chemical formulas and strengths. Only Cal Spas' chemicals are specially formulated to provide proper chemical balance at lower dosages. Compare labels and dosages and see for yourself. You will get greater protection and performance with Cal Spas' Chemicals.

Always read and follow all printed instruction on chemical bottles and packages.

Day One (Monday)
1. Test spa water using test strips. (Be sure to check the expiration date prior to use.)
2. Add two tablespoons **Granular Chlorine**. (Chlorine dissipation will vary with water temperature.)
3. Adjust Total Alkalinity, then pH if needed. (See pH and Alkalinity sections for more information.)
4. Add 2 oz. of **Stain and Scale Defense.**
5. Pull the dirty filter from the spa and place into **Liquid Filter Cleaner** solution.
6. Place your extra, cleaned, fully dried filter cartridge in the spa.
7. Vacuum your spa with the **Cal Spas Vac**.

Day Two (Wednesday)
1. Test spa water using test strips. (Be sure to check the expiration date prior to use.)
2. Adjust Total Alkalinity, then pH if needed. (See pH and Alkalinity sections for more information.)
4. Pull the filter from Liquid Filter Cleaner solution hose it off and allow to dry.

Cal Spas Clear Water Plan (Chlorine cont.)

Day Three (Friday)
1. Test spa water using test strips. (Be sure to check the expiration date prior to use.)
2. Add two tablespoons **Granular Chlorine**. (Chlorine dissipation will vary with water temperature.)
3. Adjust Total Alkalinity, then pH if needed. (See pH and Alkalinity sections for more information.)
4. Add 1 oz. of **Oxidizer Shock** (See Oxidizer Shock section for more information.)

Every Month:
1. Inspect equipment area for leaks, rodents, and insects.

Every 3 to 4 Months:
1. Drain and clean your spa with **Multi Purpose Cleaner.**
2. Polish the acrylic surface with **Fast Sheen.**
3. Clean and treat spa cover, pillows and Ultra Spa Cabinets with Cover Protector.

Every 6 Months:
1. Clean and treat redwood spa cabinets and gazebos with **Nu-Spa** redwood stain, renewer & brightener.

Frequently Asked Chemical Questions:

Q: **My pH is High and my Alkalinity is low, What do I do?**
A: Adjust your Alkalinity first, even if it throws the pH further off. Use "pH / Alkalinity Up" or "pH / Alkalinity Down" adjust and stabilize you Total Alkalinity level. This will make it easier to adjust you pH levels later and allow them to remain stable longer.

Q: **When is the best time to use Oxidizer Shock?**
A: Every week, as described in Cal Spas' Clear Water Plan, and after heavy bather loads. You may use Cal Spas' Oxidizer Shock as often as you like, as long as you allow you spa to run for 30 minutes with the spa cover at least half off.

Q: **How long is the shelf life of Bromine?**
A: As with any chemical you will want to store them in a cool, dry place. When properly stored, bromine will last one year.

Q: **Do I need Metal Protector and Stain and Scale Defense?**
A: Yes. Water sources are becoming more and more mineralized. These chemicals are every bit as important to your spa as Bromine or Chlorine are.

Q: **My skin is becoming irritated after spa use. Why?**
A: You are not using your Cal Spas' Oxidizer Shock enough and/or your sanitizer level is too high. Because the spa and its chemicals will strip some of your bodies oils away. We recommend that you use a moisturizer after spa use. If you still have skin irritation after these steps, see your doctor.

Q: **How long should I wait to enter the spa after adding chemicals?**
A: With Cal Spas' Chemicals, the longest you will need to wait is one (1) hour.

Q: **What is the sand like substance in the bottom of my spa?**
A: Oxidized contaminant's. Spas equipped with the Quest 2000 Ozonator will produce this generally after initial fill up and water additions. The debris is just oxidized solids that were in the water that are now visible. Simply vacuum them out as a part of you weekly plan.

If you have any questions that were not answered in this guide, please call your local Cal Spas Dealer. They have plenty experience dealing with your local water chemistry and can offer the most efficient solution for you water issues.

Cal Spas Chemicals

BROMINE/CHLORINE STARTER KIT
#CHE07000290/#CHE07000295

When use as directed, this product is effective as a spa and hot tub sanitizer and disinfectant.Treats 250 Gallons for up to 3 weeks.

VINYL & LEATHER CLEANER
#CHE07000620

Specifically designed to protect spa covers and pillows from chemical and ultraviolet damage.

FAST SHEEN
#CHE07000610

Unique water based, chemically reactive silicone sealant and polish. Seals, shines and protects spa surfaces.

BROMINATING TABLETS
#CHE07000760/#CHE07000770

Sanitizer, disinfectant for Spas and Hot Tubs.

CHLORINATING GRANUALS
#CHE07000865/#CHE07000880

When use as directed, this product is effective as a spa and hot tub water disinfecting agent.

GO BROM
#CHE07000830

Establishes a bromide bank in spas and hot tubs.

FILTER CARTRIDGE CLEANER
#CHE07000690

Breaks down organic an inorganic material. Removes calcium scale and mineral deposits.

LIQUID HARDNESS INCREASER
#CHE07000250

Increases water hardness to reduce corrosion. Helps reduce foaming.

SPA BRITE
#CHE07000580/#CHE07000590

Clears up cloudy water in spas and hot tubs. Effective at all spa and hot tub temperatures.

FOAM GONE
#CHE07000800/#CHE07000810

Breaks up existing foam in spa water. Effective at all spa and hot tub temperatures.

pH-ALKALINITY UP
#CHE07000720/#CHE07000730

Helps Maintain pH in Spas and Hot Tubs.

pH-ALKALINITY DOWN
#CHE07000750

Lowers pH in Spas and Hot Tubs.

ENZYME FORMULA
#CHE07000600/#CHE07000605

Emulsifies and biodegrades bodily oils, suntan lotion and other contaminant's found in spas and hot tubs.

METAL PROTECTOR
#CHE07000630/#CHE07000640

Controls water discoloration caused by minerals. Special Extra Strength formula for spas and hot tubs.

STAIN AND SCALE PREVENTION
#CHE07000650#/CHE07000660

Prevents minerals from damaging spa components and effecting performance.

OXIDIZER SHOCK
#CHE07000680/#CHE07000710

Destroys organic contaminant's and odor causing wastes.

TO ORDER CAL SPAS' CHEMICALS PLEASE CALL
1-800-CALSPAS