

Maintain good pool water balance with these parameters: pH - 7.2 - 7.6 (all pools); Total Alkalinity - 80 - 120 ppm (concrete) or 120 - 150 ppm (vinyl liner); Calcium Hardness 200 - 300 ppm (concrete) or 175 - 250 ppm (vinyl).

### **Other chemical or chemistry based reasons for cloudy pool water would be...**

- Lack of regular shocking.
- Periodic (about every 6 - 8 weeks) chemical cleaning of the filter.
- Poorly maintained sanitizer levels (chlorine, bromine, biguanide).
- Lack of a chemical maintenance routine: such as the BioGuard 3 Step Program or Soft Swim ABC.
- Not treating or preventing scaling conditions.

Regular weekly or biweekly shocking of the pool aids in oxidizing un-filterable swimmer waste such as body oils, lotions, urine, hair gel, perspiration, etc. We find that the single biggest mistake customers make in their normal care is not shocking the pool often enough or insufficiently (not using the proper amount of pool shock).

Proper shocking also helps to "rejuvenate" the chlorine level and knock out early algae growth. Whenever you have a pool party with lots of expected bathers, consider shocking the pool the day before (helps build up the chlorine level providing a buffer for an eventual chlorine demand) as well as immediately following the party (shocks & oxidizes everything that was brought into the pool during the party -- if your guests weren't using the bathroom, the drinks had to go somewhere).

Using a calcium hypochlorite shock such as BioGuard Burn Out is preferred since the product will get in, do its work, then get out. Potassium monopersulfate shocks like Oxysheen work well to help break up chloramines (combined chlorines), but shouldn't be used exclusively.

Adding a Natural Enzyme such as Natural Chemistry Pool Perfect or Pool Perfect Plus PhosFree helps to consume and naturally breakdown greases, oils and proteins that accumulate in the water due to bathers or the environment.

### **Final Notes**

As you can see there's no 1 or 2 reasons for cloudy pool water. It's usually a combination of factors. Some of them don't even coming from the pool itself.

The best solution to cloudy pool water is prevention utilizing a good, regular chemical and cleaning maintenance program. About 30 to 60 minutes per week is all that it takes.

If or when your pool water turns cloudy, don't start adding clarifiers or flocs. Get down to the real cause. Look at all of the contributing factors.

**Please see our brochure on bio-films for further details.**

## **Cloudy Water.**

## **What causes it. How to treat it.**

**Important information for all swimming pool owners who want to enjoy Sparkling, blue, crystal clear water.**



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## Cloudy pool water is caused by many factors.

These factors may be chemical (water balance, pH, improper methods), mechanical (pool filter system) or environmental (source water, excessive rain, heavy use).



Most times, pool owners attempt to treat the symptoms but not the cause of the cloudy water, so we have to look at all of the things that may contribute to the problem. They tend to go immediately to the

chemical causes which are NOT there, and neglect the environmental or mechanical factors.

Let's look at the causes of cloudy swimming pool water, then we can look at treatments and cures.

Before we dive in let's first put cloudy water to the test. Cloudy pool water is in the eyes of the beholder.

### "Cloudy" can mean:

- **Dull** - the pool water just doesn't sparkle (many people think this is how their pool is supposed to look).
- **Hazy** - it just isn't as clear as it normally is - like the pool in the picture above.
- **Cloudy** - you can make out the bottom of the pool if you look hard.
- **Opaque** - the term says it all!

### Environmental Reasons

Remember that whatever is out in the world, will eventually get in the pool and detract from water clarity. Pollen, dust, dirt, leaves, make-up water, bird droppings (forgot about those, right?), rain, local construction sites, etc. can all affect your swimming pool.

Each of these culprits needs to be treated differently. Pollen, dust and other fine particulate can be treated using a water clarifier like BioGuard Polysheen Blue. Flocculants work well in severe situations by settling the particles to pool bottom and vacuuming it all out on Waste.

Use a skimmer sock inside of the skimmer to remove fine pollen or dust that may be too fine for your sand filter.

We would also include biofilms as a cause of cloudy water. Although biofilms are already in the pool, they need to be removed and prevented from building. We classify biofilms as an Environmental reason just because they are there. Biofilms are part of the environment.

Remove biofilms and solve a myriad of problems. Leaves, swimmers, makeup water, droppings will create a chlorine demand. Shocking the pool is necessary. Make-up water can change the water chemistry affecting the pH, TA and CH not to mention the possible addition of heavy metals, all of which can cause or add to water cloudiness.

### Mechanical Reasons

If the chemistry is good and the pool is being properly shocked and algaecide added every 1 to 2 weeks, then it is necessary to look at the mechanical reasons. The mechanical components contributing to cloudy pool water would be improper filter size (too small), improper pump and motor size (too small or too large a horsepower pump), insufficient filtering time, poor circulation, improper maintenance (vacuuming & brushing). I can recount story after story when I've walked into a customer's backyard to help them troubleshoot a problem pool only to find the filter shut off or improperly connected. When simple corrections are made, the pool water is clear in as little as 24 hours. Let's examine some basics.

Your swimming pool's filtering system should be operating a **minimum** of 8 to 10 hours per day, every day from opening to closing. If the pool water becomes cloudy or other problems become evident, then constant running of the filter until the problem is solved is required. If the filter was properly sized (even slightly bigger is better) then 8 to 10 hours daily is good. On the other hand, too large of a pump may be "harmful" to the filtration. If the horsepower is too great, you may be blowing dirt and everything else you want filtered right through the filter (especially sand filters).

When it comes to 2 speed pumps, make sure the "high" speed run time is set for a minimum of 6 hours daily PLUS and additional 12 to 18 hours at "low" speed).

Consider using an automatic pool cleaner. You'll end up with better circulation, cleaner pool surfaces and less work.

The other mechanical reasons are also important. Regular vacuuming and brushing help with the overall circulation by moving water around. Keep directional "eyeballs" pointed DOWN to force filtered water down to the bottom of the pool and therefore aid in water movement by breaking up dead spots.

Too frequent backwashing of the filter doesn't give the filter media enough time to do its best cleaning -- a dirty filter filters a finer particle.

When was the last time the filter was **chemically cleaned**? Not just backwashed or rinsed, but chemically cleaned.

How about the pump? Are bits & pieces of debris clogging the veins of the impeller? If so, that can dramatically affect the efficiency of the pump and the overall circulation of the pool.

One final mechanical reason for cloudy pool water, lack of use. Actively used pools are always better circulated and filtered. So even if the water is cloudy (as long as the water is in good chemical balance), use the pool!

### Chemical Reasons

Many pool owners quickly blame "bad chemicals" so let's end there. Here are some of the factors and their contribution to the cloudy water problem.

Water chemistry can contribute to cloudy or hazy water - if the pH is HIGH (over 7.8) and / or the Total Alkalinity (TA) is HIGH (over 200 ppm) and / or the Calcium Hardness (CH) is HIGH (over 400 ppm).

With pH & TA being high the water will become dull or flat and the chlorine reacts more slowly and therefore loses its ability to kill and control bacteria and algae. Now you have early algae growth - another cause of cloudy pool water.

High CH doesn't become a problem until the water warms up to over 85 degrees F; then you have a "cloudy" condition that won't go away. The reason: calcium is one of those minerals that dissolves better in cold or cooler water as opposed to warm or hot water (at higher temperatures, this can lead to scaling of surfaces and equipment).