

CAT Controller Courier # 30

March 2009

Let's Talk More About - Cyanuric Acid

What is Cyanuric Acid: by definition as it relates to the pool and spa industry: Cyanuric Acid (CyA), also known as stabilizer or conditioner, is a chemical compound that when introduced into a chlorinated body of water will chemically bond to the HOCL. The CyA, when bonded, will protect the HOCL from the sun's ultra violet rays, in some cases allowing for chlorine residuals to last 3 to 10 times longer in outdoor bodies of water. As stated by the NSPF, the ideal range for CyA in an outdoor body of water is between 30 and 50ppm. Most state health departments permit a maximum of 100ppm of CyA to be present in outdoor bodies of water and restrict the use of CyA, completely, from indoor bodies of water.

Now let us talk about that last statement. If CyA had no significant negative effect on pool water, why would MOST state health departments forbid facilities from using CyA on indoor pools? Because it DOES have a significant effect, it effects chlorine kill time. The more CyA is in your water the longer it is going to take the same amount of chlorine to disinfect and oxidize. Most studies suggest that for optimum use of CyA and chlorine together your CyA level should not exceed 30ppm. Over stabilizing or when using CyA residuals(Over 30ppm-50ppm) can result in unhealthy and unsafe water. When CyA levels exceed 50ppm pools reach the point of "diminishing returns" where the reduction in chlorine effectiveness versus the amount of chlorine savings and cost of buying Cyanuric acid outweighs the benefits. Tests have also shown that by maintaining more than the recommended amounts of CyA (though still maintaining the same FAC residual) ORP readings will greatly decrease.

Why do most salt chlorine manufactures suggest using higher amounts of CyA? In Layman's terms - the more CyA in the water in an outdoor pool the more likely the salt chlorine generators is to keep up with chlorine demand. When using sodium hypochlorite or calcium hypochlorite you only notice the amount of chlorine being used not how hard the chlorine pump or solenoid valve is working. Nor does the chemical feed pump or solenoid valve care; they just do what is needed to get the job done. Salt chlorine generators, on the other hand, are only manufactured to produce specific amounts of chlorine per day. Which means that if the system is sized smaller than it should be, then it would not be able to keep up with chlorine demand. This is especially vital in an outdoor body of water where UV rays are contributing to chlorine loss. So with all of this being said, most salt chlorine manufactures will tell you to add more Cyanuric acid and to keep it at higher levels. This will reduce the amount of chlorine loss due to UV rays so that their systems look as if they are able to keep up with the demand. Now this is not a negative bash on the salt chlorine manufactures, the problem does not lie with their systems it lies with proper sizing of equipment. It is a very difficult task to size a salt chlorine system. When sizing you have to take into consideration the volume of the pool and two variables that are hard to predict; the

amount of bather load and the amount of chlorine loss through UV rays. The problem is that the larger the system the more expensive it becomes to the end-user. With all of this in mind, we must be careful that when salt chlorine systems are sized that they are size accordingly and we do not rely on the use of CyA to help keep up with chlorine demand.

Another effect CyA has on pool water is regarding Total Alkalinity. Total Alkalinity is a measurement of both carbonate and Cyanuric alkalinity. When there is a significant residual of CyA in the body of water it can bring down your alkalinity quite dramatically. Using a conversion factor, Taylor Technologies shows that at 50ppm CyA with a pH of 7.6 that your alkalinity is really 16.5ppm less than shown in the original Total Alkalinity test. High CyA levels can play a major role in controlling pH.

Here are the main variables to consider when using CyA:

1. Do not use CyA in indoor applications (There is no benefit).
2. Do not maintain over the 30ppm - 50ppm CyA
3. Try to hold CyA at a steady and consistent ppm
4. Understand your ORP controller is not telling you how much FAC is in your water it is telling you how effective the chlorine is.
5. Recognize that any presence of CyA will decrease your ORP, which means you will have to adjust your ORP Setpoint accordingly.
6. With seasonal pools be sure to pay close attention to your ORP readings and set points after stabilizer is added.
7. When using a salt chlorine generator, understand that the manufacturer may be suggesting higher amounts of CyA to help with the generators ability to keep up with chlorine demand.
8. Make sure to take into account that your Total Alkalinity will be lower when using significant amount of CyA. Make sure to use test kit conversion factors when testing for TA in pools/spas using CyA.

Written By:
Troy McGinty
CAT Controllers, Inc.

FOCUS

I am no expert in the financial world and I am not an economic analyst but I do know that there are some things we in the pool industry can focus on to stay afloat during these economic times. Stay focused, do not allow the media to bring down your aspirations and hopes for a profitable year. The commercial pool industry has a very important ally....THE LAW! Now I am not saying that we should all go out to our accounts and start analyzing and picking apart every inch of their pump rooms so that we can make a buck. What I am saying is that we can increase the safety of our facilities and help them comply with local and federal codes, while at the same time making a small profit. Focus on the important aspects of the pump room. Are they reaching proper turnover rates? If not, why? How can

you help them? Is their chemical feed equipment working efficiently? If not, why? How can you help them? Is their heater working efficiently? If not, why? How can you help them? Go into your accounts with a full pump room inspection sheet. Document all of the equipment and its status; this will be good for you to have for future reference and it will give you something to go off of when you provide them a quote. This brings me to my next point, provide them with options. Don't give them one quote and tell them, take it or leave it. Give them 3 quotes. Provide them a high-end quote that may have more than what they need, provide them a mid-grade quote that will benefit them and make their lives easier but not have every bell and whistle, and provide them with a bottom line quote to get them up to code and make their facility run as it should. Here is a way to get started:

- Make a folder to provide to the facility when you arrive to do your inspection. Provide them with a company introduction letter, product literature, service programs, chemical costs, references, and a copy of the local swimming pool health codes.
- Next acquire as much information about the pool and pump room as possible - (Send Troy an email at mtmcginty@chemauto.com to receive a copy of the initial pump room inspection sheet)
- Go back to your office and make sure the facility is up to code - if they are not reference which codes they are not following and what you may be able to do to help them. Provide this info as references within your quotes.
- Produce three quotes.
- Set up a meeting that has both the facility manager and the person who is in charge of taking care of the pool.
- Present the quotes and follow up diligently but not overwhelmingly.

Please be sure to let CAT know if there is anything we can do for you. We wish you the best of luck this 2009 season...

Written By:
Troy McGinty
CAT Controllers, Inc.

The CAT 1000

CAT Controllers, Inc. recognizes the need for residential pools to automate the control of their pH. With the increasing demand for salt chlorine generation one must realize that home owners want less to do with maintaining their pool water chemistry. CAT Controller would like to introduce their CAT 1000 single channel pH controller to help you to give your clients what they want.

Benefits of using the CAT 1000

- pH Control for Salt Chlorine Systems
- Less chemical contact for your clients
- Protect new plaster finishes
- Add extra value to your customer
- Protect your equipment warranties

2009 Western Pool and Spa Show

CAT Controllers is very excited about this year's Western Pool and Spa Show in Long Beach, CA. CAT will have quite a strong presence this year. Paul Hammond, CAT's Western Regional Sales Manager, and Troy McGinty, CAT's WQM Consultant and Poolcomm Administrator, will be exhibiting at this year's show. CAT will be hosting a full day CAT Controller Dealer training at the Renaissance Hotel, Long Beach, CA on Thursday, March 12, 2009 from 8am to 5pm. CAT will be providing full training notebooks, beverages and lunch for all attendees. Troy McGinty will then be speaking on Friday, March 13th, 2009 at the Long Beach convention center in classroom number 307, regarding pH and ORP automation as it pertains to the industry economy and going "Green". For more information on the show please click the link below. CAT hopes to see you all there!

[CAT Controller BOOTH # 423](#)

CAT Controller Training Schedule

CAT Controllers would like YOU to attend their CPO and CAT Dealer Training Classes. Please review the following dates and send an e-mail to Troy McGinty at mtmcginty@chemauto.com with; the amount of people you wish to send, their names, and what class dates they will be attending. Contact us as soon as possible as classes are filling up FAST!

Friday March, 6, 2009 (Dealer)

Thurs. March 12, 2009 (Dealer) Long Beach, CA

Thurs. March, 26, 2009 (CPO Fusion)

Friday March, 27, 2009 (Dealer)

Please take note of the CPO Fusion Classes. Contact Troy McGinty at CAT to request your CPO Primer Online Code and finish your first day of CPO class on-line. After finishing the online portion of the CPO class, pick one of the above dates to complete your CPO Course and follow it up the next day with a full CAT Dealer Training.

CAT would like to thank all of you once more for your support and loyalty. If there is anything that you may have questions or concerns about please contact me at 1-800-657-2287. CAT Controllers prides ourselves on our customer support and the quality of our dealers. We are ready and willing to do anything to help you have a better 2009.

Sincerely,

Troy McGinty
CAT Controllers, Inc.