

CAT Controller Courier # 38

November 2009

Dear CAT Customers,

CAT Would like to thank those of you who participated in this year's October Special. CAT understands that with today's economic state it is difficult to purchase stock, however we are pleased to see that a large percentage of you were able to take advantage of the great savings offered by this year's October Special. CAT would like to remind all of you to review any upcoming projects and to get all orders in before the end of 2009 to attain your proper place in our discount structure for 2010. CAT thanks all of you for your business and asks that if there is anything that CAT can do for you please let us know!

CAT Controller and CPO Training

CAT Controllers would like YOU to attend our 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 number of people you wish to send, their names, a contact phone number, the name of your business, and what class dates they will be attending. Contact us as soon as possible as classes are filling up FAST!

2009

Thursday, December 10, 2009 (CPO Training)

Friday December 11, 2009 (Dealer Training) – CLOSED

2010

Friday, January 15, 2010 (CAT Training)

Thursday, February 4, 2010 (CPO Training)

Friday, February 5, 2010 (CAT Training)

Thursday, March 11, 2010 (CPO Training)

Friday, March 12, 2010 (CAT Training)

Please take notice 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.

Agenda

- 9:00 Welcome Breakfast with Coffee, Juice and Danish
- 9:30 Advanced Water Chemistry and the ORP Method
- 10:30 CAT 2000 microprocessor based controllers
- 11:30 Selecting the proper Chemical Feed Equipment and Accessories
- 12:30 Catered Lunch
- 1:30 CAT 4000 & 5000 Wireless Web Based Controller
- 2:30 Poolcomm
- 3:00 Sales Strategies and Water Quality Management Programs
- 3:30 Troubleshooting
- 4:00 Dealer input and feedback on existing controllers and future improvements

In addition to this valuable training each attendee will receive a CAT training manual and certificate of completion.

Please Email mtmcginty@chemauto.com With Your Confirmation

Why is the ORP in my Pool so Much Higher than in my Spa?

CAT Controllers is asked this question at least once a week, "Why is the ORP in my pool so much higher than the ORP in my spa? I have the same water chemistry in my pool as I do in my spa. I have the same type of surface in my pool as I do in my spa. I have the same fill water going into my pool as I do my spa. I have the same type of filtration in my pool as I do in my spa. I just don't understand; there must be something wrong with your controller." Well I must say - most likely there is nothing wrong with our controller. Instead, the difference is simply the temperature of the water.

As you all should know from previous articles, the variable in water chemistry that will affect your ORP most dramatically is pH. When pH is low, you will have more HOCL in the water. HOCL is our more active chlorine, which in turn will give us a higher ORP. When pH is high you will have more OCL. OCL is our less active chlorine, which in turn will give us a lower ORP. With this in mind, some of you may not know that the temperature of the water has a similar, though not as dramatic of an effect on the disassociation of free chlorine. The lower the temperature of your water will provide more HOCL will be present. *A study conducted by N.C. State University of Raleigh, NC reveals that water at a steady pH of 7.5 with a temperature difference of 30 degrees Celsius will provide a difference of HOCL to OCL of 18.09%. That means that in a pool that is 80 degrees Fahrenheit it could have as much as 6% more HOCL than the spa that is 104 degrees Fahrenheit. Now, though there is no direct correlation between HOCL, OCL, and ORP. This may explain why you would obtain a higher ORP in a lower temperature pool than you would in a spa that is maintained at higher temperature though the same water chemistry make up. Remember HOCL is more active which would influence a higher ORP. If you have any questions, concerns, or comments feel free to contact me at mtmcginty@chemauto.com.

*White, Geo Clifford. The Handbook of Chlorination and Alternative Disinfectants, 3rd edition. Van Nostrand Reinhold, 1992.

Article Written By:

Troy McGinty
CAT Controllers, Inc

Come Visit Us at the International Pool, Spa, Patio, Expo in Las Vegas, NV

CAT will be exhibiting at the International Pool, Spa, Patio Expo for the 15th consecutive year. This year CAT will be located in booth # 650. Please be sure to stop by and visit with the CAT Controller team.

Location:

Mandalay Bay Convention Center
Bayside Hills | Las Vegas, NV USA

Exhibits:

November 16th 11:00am until 5:00pm
November 17th 11:00am until 5:00pm
November 18th 11:00am until 3:00pm

CAT Controller Booth Number – 650

To set up a meeting time with your Sales Representative please email mtmcginty@chemauto.com with your requested meeting times, your company information, and the best way to contact you at the show. CAT Controllers is looking forward to another successful show and hopes to see you there.

Will Calcium Hardness Affect My ORP?

Out in the central/western half of the United States we have had clients with this same recent concern, "How does Calcium Hardness affect my chlorine activity?" Well, I come to you with good news. Calcium Hardness has absolutely no effect on your chlorine activity DIRECTLY. Now let me attempt to explain why, without being too technical. Let's first start by discussing what Calcium Hardness is.

As defined by the NSF, Calcium Hardness is the calcium portion of the total hardness. It is the measurement of the amount of dissolved calcium in your water. Hard water is defined by high amounts of calcium in the water, over 400ppm. Soft water is defined by low amounts of calcium in water, fewer than 200ppm. When you have high calcium levels in your pool water it can contribute to scaling and

calcium build up/calcium deposits, which can inhibit filtration, circulation, and heater efficiency [due to scale formation on heating elements]. When you have low calcium levels in your pool it can promote corrosion of plaster surfaces, where you may see etching of the pool surfaces.

Calcium is found as a positively charged substance (an ion) in water and is very stable. In other words, Ca^{2+} does not react with HOCl or -OCl because Ca^{2+} does not give or take electrons. In Layman's terms these ions in water leave each other alone. Therefore, the Calcium Hardness of your water has no effect on your chlorine activity or ORP.

This does not mean it is okay to ignore your calcium levels. Calcium will indirectly affect your chemical makeup of the water by either slowing down the filtration and circulation process consequently not allowing for the proper distribution of chlorine throughout the pool. Or, it may promote the etching of the pool surfaces, which can create sites for algae growth or staining. In conclusion, you must absolutely pay attention and ideally keep your Calcium Hardness levels between 200ppm and 400ppm in your pool, but remember that your calcium levels do not have a direct effect on your ORP!

Written By:

M. Troy McGinty
CAT Controllers, Inc.

I would like to thank you all for reading the November 2009 CAT Controller Courier. I hope that all of you enjoyed this month's articles and information. Please send any requests or article ideas to me at mtmcginty@chemauto.com. CAT wishes all of you a Happy and Safe Thanksgiving Holiday.

Sincerely,

Troy McGinty
CAT Controllers, Inc.