Santa Clara Valley IPSSA Newsletter

Next General Membership Meeting
Thursday, May 16, 2019

santaclaraipssa@gmail.com / scvipssa.org

Meeting Location
SCP: 2036 Martin Ave.
Santa Clara, CA 95050
Dinner 5:30PM, Mtg. 6PM

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President's Message

Spring is here with summer right around the corner (however they are predicting another big rain this week). Filters are cleaned, all repairs have been made, right? Well….

I want to thank all who attended last month's Nuts N Bolts, The sponsors, our chapter members as well as the guests. Certainly, special thanks goes out to our hosts for the evening, Scuba Pool Repair, which went above and beyond to help us set up and take down everything. Finally, an event like that doesn't happen without a lot of prep work as well as blood sweat and tears from the Board of Directors.

Nuts n' Bolts raised over $1,200 for the National Drowning Prevention Alliance!

The Board is also working hard to get our educational speakers lined up for the balance of the calendar year. Interest from our chapter sponsors to get in front of this group and share their knowledge is a fundamental element of what drives this chapter. This month we're happy to have Tabby from Sun Trek Industries and in June we'll have Patrick from Deck-O-Seal.

Looking forward to seeing you at this month's meeting.

Fred

"Milkying" A Pool

Many of us may have had the unfortunate experience of adding soda ash to raise the pH and turned the pool water a milky white… in fact, we refer to it as "milking" a pool. Why does that happen and what does that do to the water?

Well, the soda ash (sodium carbonate) is normally very soluble in the water and goes into solution almost immediately. But it also can raise the pH and the Saturation Index high enough to cause calcium bicarbonate (dissolved calcium in the pool water, or calcium hardness) to precipitate. The white cloud you see is not actually the soda ash, but precipitated calcium carbonate.

If a small amount of calcium carbonate is precipitated and creates some cloudiness, it generally and gradually, usually within minutes, re-dissolves and clears up. The added carbonate (from soda ash) blends through the pool, changing and becoming bicarbonates of calcium and sodium, and the pH and the alkalinity rise, as planned. But if too much calcium is precipitated, it triggers a reaction that results in calcium carbonate precipitate that does not typically dissolve back into the rest of the water.

When a pool is milked, steps can be taken to either re-dissolve the calcium (by lowering the pH using acid until the Saturation Index value is low enough so that the calcium carbonate becomes bicarbonate and is re-solubilized), or we can filter out the precipitate and lower the calcium level.

The advantage of the first option is that within an hour or two the pool water can be clear again, but with everything (including the calcium!) back where it came from. The advantage of the second is that we pool water can be softened by reducing the calcium hardness level, but the pool will be cloudy through the filtration process, which may take days or a week.

By manipulating the water's saturation chemistry, calcium can be removed via an ion exchange-style process of adding sodium to remove calcium, and then clear the water by filtration.

By way of example, we helped a pool owner who's 18,000-gallon pool had a calcium hardness level of 1196 ppm, a pH of 8.2, and a total alkalinity of 180. The pool owner did not want to drain the pool unless they really had to, so they contacted us. We added 70 pounds of soda ash to the pool. This precipitated around 70 pounds of calcium carbonate, which was filtered from the pool. The resultant readings were a calcium hardness level of 589 ppm, a pH of 7.5, and a total alkalinity of 158. *(Continued on page 4)*

The Start Up

What happens when a new plaster pool is filled with perfectly (LSI) balanced tap water? Surprisingly, regardless of whether it has marble, quartz or pebble aggregate, it dissolves some of the cement material from the paste portion of the plaster surface and causes minor porosity of that surface.

The fact is that new uncured plaster/cement surfaces contain a soluble compound (about 20% of which is calcium hydroxide) that can be dissolved by LSI balanced (and especially by aggressive) fill water. How is that known? It is known by the amount of "plaster dust" that forms throughout the pool, and by the amount the calcium hardness level in the pool water rises.

Wouldn't it be best to use a start-up program that prevents plaster dust and porosity, minimizes calcium loss from the surface, and achieves smoothness, hardness, and density, which helps the plaster look better and last longer? Of course, and it is the Bicarb Start-up program that accomplishes that.

The formation of plaster dust is NOT a natural and *unavoidable* phenomenon when filling new plaster pools. Plaster dust can be *prevented* altogether, as opposed to *causing* it, or *dissolving* it (once formed) with acid or "hot" chemical start-ups. While acid start-ups help darker-colored plaster look good (but not under magnification) for a while, acid start-ups create greater porosity and an etched surface, which in turn, decreases durability, which will likely stain quicker and easier than otherwise.

The onBalance Bicarb Start-up program consists of three essential keys to preventing plaster dust and damage to new plaster:

1.Waiting to start filling for at least six hours after final troweling. The bottom of a pool is usually that last to be finished, and yet receives the fill water first. That can result in a loss of plaster material, greater porosity, and plaster dust. That can result in quicker and easier staining and discoloration of the bowl.

2.Filling with positive LSI water, preferably with +0.5 LSI. For example, water that contains about 200 ppm of alkalinity and 250 ppm of calcium.

3.Using quality plaster material and performing quality plastering workmanship.

The Traditional start-up program, as promoted by the NPC, does not advise against filling pools too soon, nor advise to compound (raise) low calcium and/or low alkalinity fill water before it enters the pool. By the time the pool is filled, the calcium, alkalinity, and pH levels will have risen higher, before the start-up person even shows up. Waiting to balance bad water after it fills a newly plastered pool is like closing the door when the horse is already out-of-the-barn.

For example, our research has determined that submerging new plaster in water that has a pH of 7.8, with 80 ppm of alkalinity, and 150 ppm of calcium (which is LSI balanced), dissolves some plaster material. Within 24 hours, the pH rises to 8.5 or above, and both the calcium and alkalinity rises by about 15-25 ppm. And that doesn't include the "plaster dust" lying on the bottom!

The LSI rises to at least +0.5 and as high as +1.5. Isn't that evidence that balanced tap water dissolves newly hardened plaster material (calcium hydroxide)? That is because the LSI is designed to predict calcium *carbonate* solubility, but start-up chemistry involves calcium*hydroxide*, which is soluble even in LSI "balanced" water. And filling with aggressive water or performing an acid start is, of course, much worse.

More on this topic in future email "updates."

For a detailed explanation of the Bicarb Start-up, see this link:

http://www.poolhelp.com/home/onbalance-research/education/the-bicarb-start/

Please Take Note!

Here are the limits for chlorine, pH, and CYA. These regulations have been effective since 2015; the County has been citing them as violations since 2015.

Effective beginning today, we are closing permitted pools if they are beyond the chemistry legal limit.

	Minimum	Maximum
pH	7.2	7.8
Cyanuric Acid Concentration	0.0 ppm	100.0 ppm
Pool Water Temperature	Not Applicable	104° F

ppm = parts per million.

Note: Authority cited: Sections 116035, 116050 and 131200, Health and Safety Code. Reference: Sections 116035, 116040, 116043 and 116050, Health and Safety Code.

	Free-Chlorine Residual				Bromine Residual	
	Without CYA		With CYA			
	Min	Max	Min	Max	Min	Max
Public Pools*	1.0 ppm	10.0 ppm	2.0 ppm	10.0 ppm	2.0 ppm	--
Public Spas, Wading Pools, and Spray Grounds	3.0 ppm	10.0 ppm	3.0 ppm	10.0 ppm	4.0 ppm	--

CYA = cyanuric acid; Min = minimum; Max= maximum; ppm= parts per million.
*This includes all public pools except spas, wading pools, and spray grounds.

Company	Contact	Phone	Email
American Leak Detection	Bill Webb	408-729-5325	ald114@garlic.com
Blake Sales	Brian Duyanovich	916-529-0806	bduyavich@blakesales.net
Blueray XL	Chris Galvan	714-497-8822	Chrisg@bluerayxl.com
Chemquip—SCP	Laura Minert	925-250-7206	Laura.minert@poolcorp.com
Elm Distribution	John Kies	916-853-2600	john@elmdistribution.com
HASA	Brian Rivera	925-997-3640	brivera@hasapool.com
Hayward	Alex Capous	415-515-9982	acapous@hayward.com
Leisure / Keller Supply	Johnny Vasquez	408-727-8100	jvasquez@kellersupply.com
Lifesaver Pool Fence	Mark Hinkle	408-779-7922	Mark@garlic.com
Pentair	David Lagrimas	209-627-6356	Dave.Lagrimas@pentair.com
Pool Covers Inc	Cheryl Maclennan	707-386-9106	cmaclennan@poolcoversinc.com
Purity Pool	Rich Gross	530-472-3298	rich@puritypool.com
Raypak	Matt Anderson	916-767-8185	Matt.Anderson@raypak.com
SCP Distributers	Kevin Brown	408-327-4900	kevin.brown@poolcorp.com
Scuba Pool Repair	Patrick Bagg	408-866-1945	office@scubapoolrepair.com
United Chemical	Jeff Moscoe	707-533-5136	J.moscoe@unitedchemicalscorp.com
W.R. Meadows	Patrick Raney	916-806-8924	praney@wrmeadows.com
Zodiac	Jade Nicol	408-250-7000	jade.nicol@zodiac.com

Wait a minute! Didn't adding 70 POUNDS of soda ash cause a HUGE increase in pH and alkalinity?

Actually, and perhaps surprisingly, no. Since there is an almost one-to-one exchange of alkaline materials (sodium carbonate in and calcium carbonate out), the pH and the alkalinity actually stayed about the same.

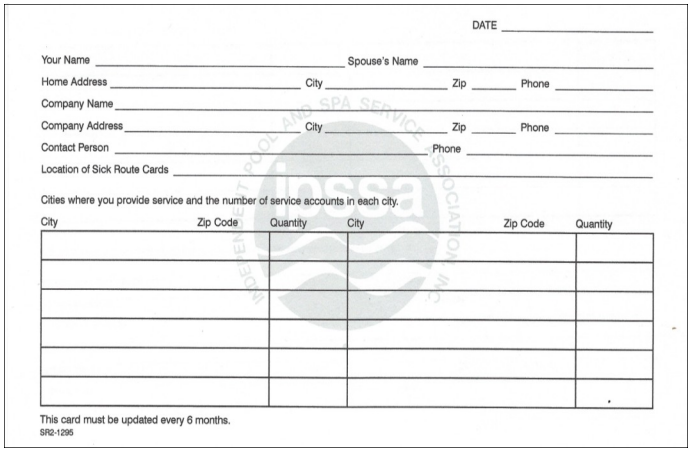
Caustic soda (sodium hydroxide or NaOH) can also be used instead of soda ash to precipitate calcium. Less material is required for the same result, but sodium hydroxide may not be available and convenient as the soda ash for most service technicians.

There are variables in how much calcium is precipitated from a given amount of soda ash. These include water temperature (the higher the temperature, the more precipitate), the existing level of calcium, and addition method (the more "localized" the addition method, the more precipitate).

We have found that a simple application of chemistry can save a pool owner from the necessity of draining their pool, and that the calcium carbonate precipitate should not adhere to the pool surface if continually brushed and removed by filtration quickly. This procedure, however, does not lower CYA or TDS levels.

On Balance, Poolhelp.com

Sick Route Card - Click on the card to fill it out!



DATE _____

Your Name _____ Spouse's Name _____

Home Address _____ City _____ Zip _____ Phone _____

Company Name _____

Company Address _____ City _____ Zip _____ Phone _____

Contact Person _____ Phone _____

Location of Sick Route Cards _____

Cities where you provide service and the number of service accounts in each city.

City	Zip Code	Quantity	City	Zip Code	Quantity

This card must be updated every 6 months.

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