



# The IPSSAN

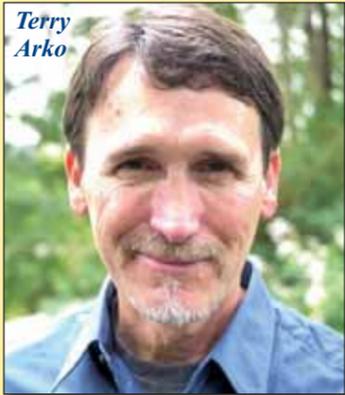
Mission Statement: The Independent Pool & Spa Service Association, Inc. exists for the mutual professional benefit and growth of its members and for the continued improvement of the pool and spa service industry.

VOLUME XXXII, NUMBER 12

December 2020

## What It Means to Shock a Pool

By Terry Arko



Terry Arko

When someone says the pool needs to be shocked; what do they really mean? The pool has algae, or the water looks hazy or someone had a fecal accident. The term shock is universal throughout the pool industry; however, it has a multitude of different meanings. In 2007 the American Chemistry Council had a question about shocking pools. They approached the Environmental Protection Agency EPA for help to determine the meaning of the word "shock" within the pool industry. At that time the term "shock" could mean anything from dumping gallons or pounds of chlorine into an algae-filled pool to adding an ounce of potassium monopersulfate MPS into a hot tub.

The EPA determined that shock treatment and super-chlorination are terms used usually to describe the killing of microorganisms such as bacteria and algae. Claims to kill, prevent or control bacteria or algae are considered pesticide claims according to the Federal Insecticide Fungicide Rodenticide Act (FIFRA). The EPA was now man-

dating that to refer to any product on the label as a shock meant it was a pesticide and thus required EPA approval and labeling. After some negotiating the EPA stated that if the words "oxidizer" or "oxidizing" were added prior or after the term shock and if no pesticide claims were on the label, then the product didn't need any EPA labeling. Even our regulatory agencies were somewhat confused as to what it means to shock a pool.

What does it mean to "oxidize" shock a pool?

The term oxidation has to do with the chemical process in

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## Dec. BORD Member Interview – Manuel Margain

For 2020, each monthly IPSSAN will feature a BORD member and why they are so dedicated to IPSSA and association membership.

Serves as the Director of Region 2 and President of IPSSA National, which includes 8 chapters: Bakersfield, Central Coast, Conejo, Conejo Valley, Fresno, Santa Barbara, Ventura and Visalia.

What year did you join? After I started my business, I joined in 2007

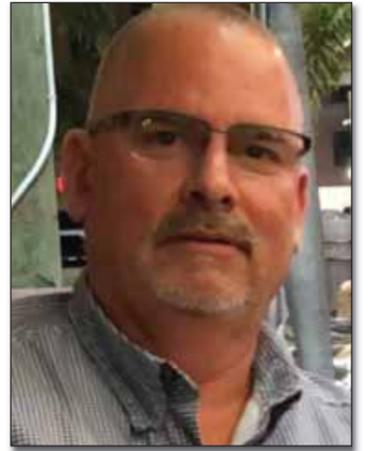
Why did you join? I was told, by the distributors, that this is where you meet the best pool service technicians.

How has IPSSA helped you over time? IPSSA is a place where I have come to learn so

many things about being a pool service technician and a leader. When you belong to an organization like IPSSA you can learn so many tricks of the trade. It is just not me out there by myself it is me and 2,800 fellow pool service technicians exchanging industry information.

Why do you serve as a BORD member? I like to learn from others, which translate to helping others from what I learned. As I stated above, being part of IPSSA and now as a leader, I am able to take all the things I learned over the years and apply it to be a team leader on the IPSSA National Board.

What are you passionate about? I am very passionate about being a Single Poler. I want



to make sure every Single Poler is taken care of by ensuring they have education opportunities at their chapter meeting and liability insurance to protect them

## VOLUNTEER SPOTLIGHT



IPSSA's newly launched Volunteer Spotlight feature puts our amazing volunteers front and center in the IPSSA Community! We want to use this unique opportunity to thank the wonderful individuals that continuously donate their time and energy to help IPSSA and the pool and spa industry thrive. We encourage all IPSSA members to connect with these star volunteers to let them know about the Spotlight. To be featured in our next Volunteer Spotlight, in the IPSSAN, Face Book and YouTube email your picture, pictures of any information that supports the spotlight, and answer a few questions. Forward to info@ipssa.com.

1. Tell us about yourself
2. Tell us about your volunteer experience with IPSSA. Project in the past that would be featured as a spotlight.
3. Why did you decide to become a volunteer
4. How has volunteering impacted your career
5. How has being involved with IPSSA made a difference in your community or outreach to the public

## We want to spotlight IPSSA members!

**CALL FOR CONTENT:** Have you had to use the IPSSA Sick Route benefit? We are looking for members to send us testimonials on how using sick route helped them in their time of need. Please send your story to info@ipssa.com - As a thank you, we will select three members who submitted their story to receive an IPSSA hat. All testimonials must be received by the 25th to be entered into the drawing.

**IPSSA MEMBER PORTAL:** Have you logged on and updated your IPSSA.com Member Profile listing? Enhance your exposure by uploading your company logo, linking your business website and social media pages as well as uploading some pictures of your work. If you need help there is a video tutorial on IPSSA.com Listed under Resources/IOU Training. If you need your log in credentials re-sent, please contact memberservices@ipssa.com.

### Associate Management Team

#### Rose Smoot IOM, CAE - Executive Director

Email: rose@ipssa.com  
Duties: requests to and from BORD, associate member relations, governance information and requests for documents, IPSSA sick route oversight, Education Fund guidelines, grievance information, chapter governance tools, IPSSA.com website updates.

#### Penny Gaumond - Project Resource Specialist

Phone: 888-360-9505, Ext. 2  
Email: info@ipssa.com  
Duties: trade show materials requests, tabletop material requests, codes for water chemistry test, process orders from chapters for sick route coverage cards, IPSSA merchandise & book order fulfillment, social media posts

### Member Services & Finance Team

#### Frank McDonald - Finance Director

Email: frank@ipssa.com  
Oversees day-to-day membership transactions and accounting. Prepares IPSSA financial reports, chapter shares and census report.

#### Ian Bailey - Accounting

Phone: (888) 360-9505 x1  
Email: accounting@ipssa.com  
Duties: invoicing members, process payments, processes (financial) tax data, Swim Fund, track members that are water chemistry certified

#### Shyann Brown - Membership Assistant

Phone: (888) 360-9505 x1  
FAX: 888-368-0432  
Email: memberservices@ipssa.com  
Duties: membership applications, transfers, cancellations, change of address or contact information, auto-pay sign up or one-time payments, chapter rosters and chapter officer updates

### IPSSAN Newsletter

#### Doug S - IPSSAN Editor

Email: editor@ipssa.com  
Duties: IPSSAN content, IPSSAN advertisements

### Insurance Billing

- insurance@crampercpa.com
- PO Box 2934, Rocklin CA 95677
- 844-574-1134 • Fax # 888-811-4502

### Things to do in December

- Buy new equipment and/or trucks
- Send holiday greetings to customers
- Get new service contracts from customers
- Reward yourself

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## Shock a pool

Continued from page 1

which oxygen is used to cause a loss of electrons from molecules, atoms or ions. In swimming pool water this causes a chemical destruction or “burning” of non-living contaminants. It is important to realize that oxidation is not the same as disinfection or sanitization. However, efficient oxidation plays an important role in the process of either disinfecting or sanitizing. Oxidation does not kill bacteria or algae and use of an oxidizer shock product that does not contain chlorine will only be effective at minimizing non-living organic contaminants. They also

can be effective at breaking apart combined chlorine without having to add more chlorine to the pool. These types of oxidizers are most convenient in cases of cloudy, hazy pools that need shocking without raising the level of chlorine. There are mechanical units such as ozone, UV and AOP which also proactively address oxidation of the contaminants that lead to cloudy water and odors. Again, it is important to understand here that oxidation whether using a non-chlorine shock or a mechanical device is never a replacement for the sanitizing capability of chlorine.

### Sanitization

The term to sanitize has to do

with the killing or reduction of disease-causing micro-organisms such as bacteria and viruses. Sanitizing can also help to keep algae from forming. If you were going to shock to sanitize the pool, that means you are going to add the amount of chlorine needed to lower the number of germs in the water to a safe level. An EPA approved sanitizer must lower 99.9% of germs when used according to proper label dosage. This is referred to as a 3-log reduction of germs. This is one of the main reasons’ chlorine is used regularly in pools. To ensure that water is safe for swimmers.

### Disinfection

Disinfection is a term that has

to do with complete killing of germs. For example, if you wanted to shock the pool to kill all the germs present in the water you would need to use an EPA approved pesticide. Chlorine is EPA approved. So, if you are wanting to disinfect then you would need to use enough chlorine to completely wipe out close to 100% of the germs in the pool. In this case you have disinfected the pool. It is important to note that disinfection usually provides 999.99% killing or a 5-log reduction of germs. It is plain to see that there is a difference between disinfection and sanitization.

### Super-chlorination

Depending on the application

and the amount used chlorine can act as an oxidizer, sanitizer or disinfectant. It all depends on the amount used and what the conditions of the water are. The term super-chlorinate has to do with increasing the level of chlorine to sufficiently sanitize a pool, clear hazy water and deal with limited algae growth. In the case of super-chlorinating enough chlorine to raise the free chlorine level to 10 – 20 ppm is added. Super-chlorination is preferred after heavy swimming, a storm or the beginnings of algae. In these cases, a super-chlorination can help to boost oxidation, increase free available chlorine and bring back good water quality. In most cases it takes one gallon of a liquid chlorinating 12.5% compound to achieve greater than 10 ppm in 10,000 gallons. Most dry chlorine compounds require slightly over a pound to achieve 10 ppm in 10,000 gallons. These amounts and levels define what it is to super-chlorinate a pool.

Reasons for Super chlorination:

- Hazy water
- After pool party
- Limited algae growth
- Regular oxidation
- After dilution to prevent organic chloramines
- Sanitization

### Hyperchlorination

There are times when a pool needs to be completely disinfected. This would be when hyperchlorination would be used. With hyperchlorination the chlorine is being raised to 20 to 40 ppm. One example of this would be when there is a suspected contamination from a chlorine resistant germ such as cryptosporidium(crypto). This is a pathogenic protozoan organism that can cause illness in swimmers if ingested. Crypto is commonly spread in pools from an accidental fecal release. The centers for disease control (CDC) recommends that hyperchlorination of the pool be done as follows if crypto is suspected in the pool:

- Pool should be closed
- An unstabilized form of chlorine such as liquid sodium hypochlorite should be used to raise the water’s free chlorine concentration.
- If the CYA level is 15 ppm or greater than the water must be drained and diluted to reach 1-15 ppm of CYA
- If the CYA level is between 1-15ppm the pool can be hyper-chlorinated as follows with unstabilized chlorine:
  - Raise the free chlorine level to 20 ppm and maintain it for 28 hours or
  - Raise the free chlorine level to 30 ppm and maintain it for 18 hours or
  - Raise the free chlorine level to 40 ppm and maintain it for 8.5 hours
- Pools with zero CYA raise chlorine level to 20 ppm and maintain it for 12.75 hours

The CDC has determined that the presence of CYA even at levels of 15 ppm interferes with the percentage of hypochlorous acid HOCl needed to inactivate the crypto germ. Unstabilized chlorine such as liquid sodium hypochlorite would be best in this scenario. Great care should be taken when hyper chlorinating a pool and high range test strips may be needed to determine levels of 20 to 40 ppm. Allow chlorine levels to come down or use sodium thiosulfate chlorine reducer to get levels to 4 ppm before allowing swimmers in the pool.

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## What might be heard at Mount Rushmore about Salt Water Pools...

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## National Pool Route Sales

National Pool Route Sales is the industry-leading business broker for pool service and repair professionals. For over 40 years, NPRS has specialized in matching qualified Buyers with quality routes to ensure a successful transaction.

Clients are met with their expert knowledge, a premium aftermarket care package, and are supported by an ongoing online marketing and management program called The Millionaire Pool Man, created and hosted by NPRS Founder, Charles Baird. The program exists to facilitate the growth and profitability of your business by improving processes, bidding, and efficiency for optimal revenue opportunities. By choosing to work with National Pool Route Sales, you get free access to this online classroom. Others are welcome to join for lifetime access at the set purchase price. (See millionairopoolman.com for more details).

National Pool Route Sales process: NPRS will contact and screen each and every potential Buyer to verify that they are qualified to purchase the pool accounts. The Buyer understands before the

appointment with the Seller, that he/she must have the funds to purchase and understand their duties should they decide to purchase.

When you sell your route with National Pool Route Sales, you will receive all the cash from your sale at the close of escrow- no monthly payments. They provide a prepared package for the Buyer which helps explain information on industry growth, pool seminars, and much more. By supplying this package to the Buyer at the close of escrow, we make the Seller's job of training the new owner much easier. Their services don't end there, as a full-service company, they continue to help and assist the Buyer and Seller to assure a smooth transition. Confidentiality is assured, no potential Buyer is aware of the Seller's identity until they have signed a Non-Disclosure Agreement (NDA) and the Seller has agreed to a meeting with the potential Buyer.

With over 40 years of experience and more than 15,000 routes sold, it would be our pleasure to share our expertise in the pool business with you. Please contact our office Monday-Friday 8 AM - 4 PM 877-766-5757.

## President's Message

By Manuel Margain  
IPSSA National President

"We don't always have to agree in our Chapters or Regions, but we must empower each other, we must find the common ground, we must build bridges across our differences to pursue the common good. Toast to the common good, which is needed more now than ever."

I would like to thank all our IPSSA members for having me as your President and to mark the end of another wonderful year.

As we approach the holidays, we are reminded that it's a time to celebrate family, friends and the many wonderful things in our lives. For many of us it is also a time to honor our faith, or to remember the people important to us, both those who are with us and those we wish were with us. It's a time to reflect back on the year and think of all the things that have happened and how we came to be here today.

For many of us it's a time to celebrate our family and cultural heritage in whatever form that takes.

It could be decorating the

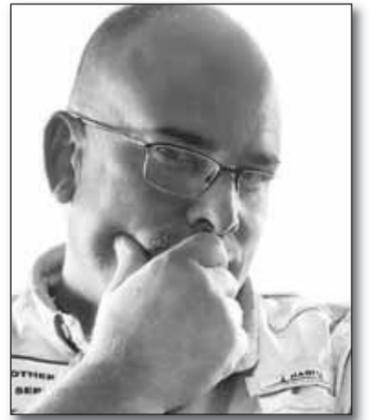
Christmas tree with your children, meeting friends for good food and good conversation, or watching your favorite holiday shows and sports.

This time of year is many things for many people, but for all of us, it's an opportunity to stop and reflect on our business.

That's what I want to focus on today. As an organization, we have taken on a lot of challenges this year: COVID-19, products not in stock and finding the time to get things done.

I'd like to quote the author and leadership expert Ken Blanchard says, "None of us is as smart as all of us."

To people working in every region, from the chapters to the BORD; to the people who have been with us for years and the ones who have just joined us recently, I want to say thank you. It's your hard work and dedication that have enabled us to get to where we are today. You are truly our greatest asset. It's your teamwork, diligence, creativity, ingenuity and perseverance that make this organization better every day. I couldn't be prouder of the work



Manuel Margain

you've done and the difference you're making.

Let me take this chance to thank you all for a great year and for all the things you do for IPSSA day in and day out. I'm looking forward to working with all of you as a Chapter President (Fresno) through another great year full of the challenges, opportunities and surprises that may come in the next year. I have confidence that you will face them with as much grace, resourcefulness and dedication as you have shown this year. May you have a peaceful, joyful and safe holiday season (Christmas) and a wonderful New Year.

Thank you.

## Shock a pool

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Reasons for Hyper chlorination:

- Heavy algae growth
- Accidental fecal release
- Follow CDC guidelines for crypto
- Disinfection

### Breakpoint chlorination

Breakpoint is another term that sometimes get used out of context among those in the pool industry. Breakpoint chlorination is NOT used to clear green pools or deal with crypto. Breakpoint chlorination refers to a method used specifically for the purpose of breaking apart and removing combined chlorine or chloramines. In the pool industry the ratio of chlorine to chloramine is 10 to 1. Once chlorine has completed the hard work of sanitizing and preventing algae it will combine with other waste material in the pool. It combines and forms two types of chloramines which are:

- Inorganic are chlorine combined with:
  - o Ammonia
  - o Nitrate
  - o Nitrite

• Organic are chlorine combined with:

- o Amino acids
- o Proteins
- o Amines

There can be three formations of chloramines that can exist from swimmer waste and environmental contamination. They are as follows:

1. Monochloramine – NH<sub>2</sub>Cl
2. Dichloramine – NHCl<sub>2</sub>
3. Trichloramine – NCl<sub>3</sub>

Inorganic forms of chloramines can be readily destroyed via breakpoint using a simple formula to determine the combined chlorine and multiplying based on the results. The presence of uric acid from sweat and urine in the pool are two of the main culprits of inorganic chloramines. When chlorine is added to water with heavy amounts of contaminant the free chlorine gets consumed quickly and forms combined chlorine which raises the total chlorine residual. So, while the total chlorine residual may read high sanitization is actually very low. Also, as chloramines accumulate and begin to develop into the tri-chloramine phase they off gas more. This leads

to very noxious chlorine odors near the surface of the water and creates eye and skin irritation for swimmers. This can be extremely uncomfortable at indoor pools, especially if there is not enough air ventilation. Traditional breakpoint is better used for outdoor pools where the off gassing of chloramines can be readily removed into the atmosphere. Methods of draining and diluting, proper air handling and super chlorination work better at controlling combined chlorine build up at indoor pools. The addition of ozone, UV or AOP oxidation is also a better way to control the accumulation of nuisance chloramines at indoor pools.

The formula for determining combined chlorine is as follows:

- Test total available chlorine TAC and free available chlorine FAC
- Subtract the FAC reading from the TAC. The resulting number is your combined chlorine CC level
- Once the CC level is determined multiply the number times ten
- Then subtract your FAC read-

ing from the times ten number to determine how much chlorine in ppm is needed to breakpoint the inorganic chloramines.

Example:

$$\begin{aligned} \text{TAC} &= 3 \text{ ppm} & \text{FAC} &= 1.5 \text{ ppm} \\ 3 - 1.5 &= 1.5 \text{ ppm CC} \\ \text{CC} &1.5 \text{ ppm} \times 10 = 15 \text{ ppm} \\ 15 \text{ ppm} - \text{FAC} &1.5 \text{ ppm} = 13.5 \text{ ppm} \end{aligned}$$

In this case it would take 13.5 ppm of chlorine to accomplish the breakpoint of 1.5 ppm combined chlorine. In a 20,000-gallon pool it would take 2.10 gallons of 12.5% unstabilized liquid sodium hypochlorite to achieve breakpoint for 1.5 ppm combined chlorine. According to ANSI/APSP Standard for Water Quality in Public Pools and Spas the preferable maximum level for combined chlorine is 0.2 ppm.

As pointed out breakpoint is an efficient way to deal with inorganically bound chloramines. However, it is not effective at

removing the organic bound types. Dilution is the most effective way to reduce organic chloramines. Proactive methods of oxidation such as the use of MPS or having an ozonator, UV or AOP can help to prevent the formation of organic chloramines.

Reasons to Breakpoint:

- Combined chlorine level over 0.2 ppm
- Achieve breaking apart and removal of inorganic chloramines
- Raise the free chlorine level to a majority to achieve sanitizing

The term shocking covers a vast array of scenarios in swimming pools. What is important is to focus on what needs to be achieved when we "shock" the pool.

Terry Arko is the Product Training Content Manager for HASA Inc. He is a CPO Instructor and a Member of the Recreational Water Quality Committee RWQC. He can be contacted at 425-343-9595 or terryarko@hasapool.com.

## \* IPSSA Education Fund \*

The IPSSA Board of Regional Directors unanimously approved the new guidelines for the IPSSA Education (formally Scholarship) Fund, February 7, 2020.

The IPSSA Education Fund: Advancing Professional Training and Education in the Swimming Pool and Spa Industry Guidelines

The IPSSA Education Committee is charged with identifying educational opportunities in all facets of the swimming pool and spa service and repair industry.

Individual and Class Scholarships through the IPSSA Education Fund are available to all self-employed pool professionals in Arizona, California, Florida, Georgia, Nevada, and Texas

Funding is provided to applicants who have completed qualified classes.

In accordance with these guidelines, the following classes qualify (not exclusive):

- Industry Trade Show education offerings
- Certified Pool Operator (CPO)
- Aquatics Facility Operator (AFO)
- Contractor license schools
- Manufacturer-sponsored courses
- College-level courses in: Bookkeeping, accounting, computers, and chemistry
- Trade-school courses in: Plumbing, electrical and

mechanical

Based upon the determination of the Committee, other courses may qualify for funding.

Individuals that received a discount on classes sponsored by IPSSA are not eligible for reimbursement.

Applicants may apply two times a per calendar year, up to \$200 per class instruction for individuals. Maximum two submittals per calendar year.

Class instructors may apply two times per calendar year, up to \$200 per student with a maximum of \$4,000. Maximum two submittals per calendar year.

Eligible individuals may to download the application from ipssa.com or email info@ipssa.com. Applications are reviewed quarterly by the Education Committee.

For questions about the program, please inquire at info@ipssa.com or call 888-360-9505 xt. 2.

### Mission Statement

IPSSA Scholarship [Education] Fund is to advance professional training and education of the Self-Employed Swimming Pool and Spa Service and Repair Professional by subsidizing group classes that will expand his/her knowledge of their profession.

For more information, please visit www.ipssa.com/resources/IPSSA\_education\_fund. There you will find details and application.

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