

Public Swimming Pool and Spa Newsletter

Common Violations

The two most common violations when conducting a pool inspection are: 1. Not testing for the required water quality parameters, and 2. Not testing and recording the water quality parameters in a pool or spa when required. These violations haunt most Public Swimming Pool and Spa inspection reports repeatedly. They are simple violations to correct. However, many pool and spa operators/owners believe that they are saving time and money by skipping that extra step to find combined chlorine or by cutting out a couple of testing times throughout the day. Unfortunately,

the time and money saved by skipping these steps are outweighed by the risks of possible consequences and repercussions. As a pool operator in a neighboring county discovered, when the proper testing is not completed or the required readings are not recorded and saved and an outbreak occurs, the pool has no defense against lawsuits. If a pool has an outbreak and shows proper record keeping and disinfection information, they have a much better defense against lawsuits and a better chance at staying open after the outbreak. Correcting these violations is

easy and only takes a few more minutes. Most pool operators test for total chlorine and pH regularly. However, it is required to test and record combined chlorine at least once daily. Also, alkalinity must be tested at least once weekly. Other items that must be recorded include: injuries, fecal accidents, temperature, water clarity, and chemicals added.

Pools without an automatic chemical controller are required to be tested prior to opening and then every four hours while in operation.

Each time testing occurs it must be recorded. If a pool has an auto controller it can be tested manually once prior to opening and recorded and then the operator must record the disinfectant residual and pH every twelve hours. See the testing chart below this article for more information.

Testing the Waters: What and How Often

Data to be tested or recorded	Pools without an auto controller	Pools with an auto controller
Free chlorine (Bromine)	Manually prior to opening and every 4 hours while in operation	Manually prior to opening and then record reading from controller every 12 hours
Combined chlorine	At least once per day	At least once per day
pH	Prior to opening and every 4 hours while open	Manually prior to opening and then every 12 hrs from controller reading
Alkalinity	At least once per week	At least once per week
Temperature	At least once per day	At least once per day
Fecal accidents	When they occur	When they occur
Water clarity	At least daily	At least daily
Injuries	When they occur	When they occur
Chemicals added	When they are added	When they are added
Cyanuric Acid (if using stabilized chlorine)	At least once per week	At least once per week

Cyanuric Acid

Stabilized chlorine is a disinfectant used to inhibit the depletion of chlorine in a pool or spa by the sun. It is most commonly available in tablets as dichlor or trichlor and used with an erosion feeder. The compound that stabilizes the chlorine is cyanuric acid. When this form of chlorine is used there is a possibility of the accumulation of the cyanuric acid, especially when stabilized chlorine is used in an indoor pool. Over time the amount of cyanuric acid may become a problem. The Ohio Administrative Code Chapter 3701-31-07 requires that cyanuric acid does not exceed 100ppm. In an indoor pool using stabilized chlorine this may happen quickly. The cyanuric acid causes other problems including cloudy water and interference with other chemical readings. The only way to get rid of cyanuric acid is to drain the pool. Sometimes the cyanuric acid accumulates in pipes and on the pool walls and scrubbing the pool may be required to get rid of cyanuric acid. Because of these issues it is highly recommended that an indoor pool does not use stabilized chlorine for disinfection.



Protect the Public

Prevent Disease

140 Fox Rd., Suite 402
Van Wert, OH 45891

Phone: 419-238-0808 ext. 105
Fax: 419-238-9571

E-mail: bmenchhofer@vanwertcountyhealth.org

We're on the web!

www.vanwertcountyhealth.org

Combined Chlorine and Superchlorinating

When the pool room has a strong chlorine odor many people attribute this to a high level of chlorine. Actually, this usually means that there is a high level of combined chlorine, or chloramines. Most of you are thinking that it's good to have a lot of chlorine. However, combined chlorine is the "bad chlorine." Combined chlorine occurs when the chlorine in your pool or spa reacts with all the yucky stuff that goes into the pool like sweat, urine, lotions, perfumes, etc. Combined chlorine does little toward disinfecting the water. In reality it causes a lot of problems like eye irritation. Combined chlorine created from ammonia compounds can be removed by achieving breakpoint chlorination. This process is called superchlorinating or "shocking" the pool or spa. Prior to superchlorination, the combined chlorine must be measured. As mentioned in another article, combined chlorine must be tested at least daily. Most pools are using the DPD color match test kit. With this kit the first step is to add 5 drops of two re-

agents to get free chlorine. Many operators stop here. If you follow the next step and add 5 drops of the next reagent (R-0003 in a Taylor test kit) and match the color you get the total chlorine reading. Then subtract the level of **Free Chlorine** (the first reading you obtained) from **Total Chlorine** to get **Combined Chlorine**. If you are using the DPD drop test kit then after measuring free chlorine add five drops of R-0003 and then count the drops of R-0871 to turn the sample clear. Multiply this amount by .2 or .5 depending on the size of the sample used to get combined chlorine. Each test kit should have the instructions for obtaining these readings. Once you have obtained your combined chlorine reading you can then successfully achieve breakpoint chlorination and get rid of the combined chlorine. Take the amount of combined chlorine and multiply by 10. This is the concentration of free chlorine needed to achieve breakpoint chlorination. Using this number, the size of the pool, the amount of free chlorine, and the type of disinfectant



used an operator can find out how much disinfectant must be added to the pool to achieve breakpoint chlorination. Adding the incorrect amount can actually create more combined chlorine! After superchlorinating, allow the chlorine level to lower naturally or add a neutralizer in the proper amount to reduce the amount of free chlorine. Another method of shocking the pool involves a chemical called potassium monopersulfate. If you are using this product, please notify the Health Department during the inspection because this chemical produces a false high combined chlorine reading. Some advantages to using this product are that it is non-chlorine based and can be used with only an hour of down time.