



COUNTY OF RIVERSIDE • COMMUNITY HEALTH AGENCY  
**DEPARTMENT OF ENVIRONMENTAL HEALTH**

INFORMATIONAL BULLETIN NO. 46-06-DES

DISTRICT ENVIRONMENTAL SERVICES DIVISION

## POOL AND SPA MAINTENANCE INFORMATION

### I. DEFINITIONS OF TERMS COMMONLY USED

- **ACID** - A granular or liquid product used to neutralize alkaline salts in water and lower the pH. (Note: Does not include cyanuric acid)
- **ACIDITY** - Amount of acid in the pool water as shown by pH levels < 7.
- **ALKALINITY** - Amount of alkaline salts in the pool water as shown by pH levels > 7.
- **ALGAE** - Tiny plant growth in the water which may appear green, brown or black.
- **ALGAECIDES** - Chemicals that kill algae and prevent new algae growth.
- **BACTERIA** - Microscopic organisms which are continuously entering pool water via swimmers, dust, dirt, etc.
- **CHLORINE** - A chemical used to purify water. It kills bacteria and algae. State Law (California Health and Safety) requires a minimum free level of 1.0 PPM (1.5 in stabilized pools) and County policy recommends no more than 10 PPM.
- **CONDITIONER** - A chemical which helps prolong the useful life of chlorine in the water by slowing down chlorine decay due to sunlight.
- **CYANURIC ACID** - Cyanuric acid is a chlorine stabilizer that is present in many granulated chlorine products.
- **PPM** - Parts Per Million, the standard measure of concentration in swimming pools. An example is one penny in 1,000,000 or one penny in 10,000 dollars.
- **pH** - The reading on your test kit that indicates acidity or alkalinity level of water; readings above 7 are alkaline; readings below 7 are acidic; and 7 is neutral.
- **pH BALANCE** - A term used to describe the proper pH level (7.2 to 8.0 on pH scale of your test kit), as required by the California Code of Regulations, Title 22.
- **SODA ASH** - A chemical which increases pH and total alkalinity. Used primarily to bring pH up when pool water is below 7.2.

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Department Web Site – [www.rivcoeh.org](http://www.rivcoeh.org)



- **STABILIZER** - Same as conditioner.
- **SUPER CHLORINATION** - (Shock Treatment) The practice of adding 5-10 times the normal daily chlorine dose to destroy algae, or to prevent problems after heavy bather loads or severe rains.
- **TOTAL ALKALINITY** - A measure primarily of the carbonates and hydroxides which, if kept around 100 PPM will help the pool water resist changes in pH. (ie: a buffer that stabilizes the pH)

## 2. COMMON POOL/SPA PROBLEMS AND SOLUTIONS

- **ALGAE** - Green, cloudy water and/or dark green or black spots on pool shell.

### CAUSES

- A. Insufficient chlorine
- B. Not following routine pool maintenance, including testing and shock treating
- C. Plaster in bad shape (ie: etched or cracked)

### REMEDIES

- A. Superchlorinate
- B. Adjust pH 7.2 - 7.6
- C. Brush spots with algae brush
- D. Use approved algaecide
- E. Refinish pool surface

- **CLOUDY WATER** - Water appears murky or cloudy looking

### CAUSES

- A. Algae
- B. Inefficient recirculation and/or filtration
- C. Improper chemistry (pH and disinfection levels)
- D. Calcium particles coming out of solution

### REMEDIES

- A. Inspect recirculation equipment for proper size and operation.
- B. Adjust pH 7.2 - 7.6
- C. Maintain chlorine level 1.5 PPM
- D. Check water balance



- **SCALE** - White, gray or brownish deposits on tile, railings, and the pool shell.

CAUSES

- A. Calcium deposits caused by excessively hard water
- B. Accumulation of dissolved solids (particles left as water evaporates)

REMEDIES

- A. Adjust pH to 7.2 - 7.6
- B. Use Scale of Iron Remover with a brush to remove scale deposits on plaster and tile
- C. Check water balance

- **EYEBURN AND CHLORINE-LIKE ODORS**

CAUSES

- A. Improper pH
- B. Combined chlorine

REMEDIES

- A. Shock treat
- B. Adjust pH to proper 7.2 - 7.6 range
- C. Maintain proper levels of pH, total alkalinity, and free chlorine residual

### 3. TESTING THE CHEMICALS IN THE WATER

Testing your pool water is a key step in keeping your pool water clean, safe and sparkling blue. This Department recommends and uses the DPD Test Kits.

- Take samples about 18" below the surface of the water and away from return lines and swimmers.
- Perform tests out of direct sunlight.
- Store your kit out of direct sunlight in a dry, cool dark place.
- Fresh test kit reagents ensure accurate test results.

Replace your test chemicals at the beginning of each season. Your PROFESSIONAL POOL DEALER carries the complete line of replacement agents.

### 4. MAINTAINING THE PROPER pH LEVELS

The pH of your pool water should always be between 7.2 and 8.0. If it is lower or higher, the chlorine in your water won't work properly. The right pH is also important to your



comfort in water. The eye irritation that most people blame on chlorine is really caused by the wrong pH balance. Low pH also causes etching of the plaster and corrosion of the metal portions of the recirculation system; high pH can turn pool water cloudy. To balance the pH, apply pH Plus (Soda Ash) or pH Minus (Acid) according to the manufacturer's directions.

#### 5. MAINTAINING THE PROPER CHLORINE LEVEL

Chlorine is used to kill bacteria and algae and will keep your pool water clear and clean. Chlorine is important for maintaining the overall health of the individuals in the pool/spa as well as maintaining the life of the pool/spa itself. There are different ways to chlorinate a pool/spa. Some offer a built-in stabilizer and more convenience, but all adequately keep your pool water sanitary. To adjust chlorine levels, refer to the manufacturer's guidelines on the chemicals used to chlorinate your pool/spa.

#### 6. MAINTAINING THE PROPER CYANURIC ACID LEVELS

Cyanuric acid is a chlorine stabilizer that is present in many granulated chlorine products. The level of cyanuric acid in the water should be tested periodically and should never exceed 100 PPM. If it does, the pool must be partially drained and refilled to lower the levels. Excessive levels can interfere with the effectiveness of the chlorine.

\*Document available in an alternate format upon request