

# Swimming Pool Water Care

When you own a swimming pool, you need to keep the water free of algae, dirt and bacteria so everyone stays healthy. You want to keep your pool safe and maintaining it is easy when you understand pool chemistry and test your pool regularly.

Always read and follow the manufacturer's instructions printed on the treatment package. Test the water regularly - it's a simple process to use a test kit. You want to maintain water balance by measuring:

- pH -7.2 - 7.8
- Total Alkalinity - 75 - 120 ppm
- Calcium Hardness - 100 - 500 ppm
- Free Available Chlorine - 1 - 4 ppm

## You will need:

- Test strips
- Pool chemicals/water care products

## Basic Steps for Pool Treatment

### **Step 1**

- Use pool test strips to test the levels of chlorine or bromine, alkalinity, pH and calcium hardness. You should test the chemical levels two or three times a week to ensure that swimmers stay safe.

### **Step 2**

- Take out a test strip and dip it in the pool water. Make sure the strip is completely submerged. Pull the test strip out of the water and wait 10 seconds. Then compare the test strip to the chart on the container. The color chart shows you what chemicals are unbalanced. Add appropriate chemicals according to the chart on each chemical packaging based on your water volume.

### **Step 3**

- Get your water tested by a pool company at the beginning of the season if you had to add a lot of water to the pool when you opened it up for the summer. You may have difficulty

determining your chemical levels with the added water and pool stores have more accurate testing equipment.

#### **Step 4**

- Maintain the level of water in your pool because water levels affect the chemical balance of the pool. Too much water dilutes the chemicals and too little water makes the chemicals too strong.

#### **Step 5**

- Recognize common pool problems like green water which means too much algae or smelly water which can be too much chlorine. Cloudiness is common but can have many causes, such as not having the right amount of pH or alkaline.

#### **Step 6**

- Realize there is daily, weekly, monthly and seasonal maintenance when maintaining swimming pool water chemistry. Test your chemicals frequently; vacuum out the debris and backwash your filter weekly and if you need assistance bring a water sample to your local pool store for analysis.

### **Water care products required for swimming pool maintenance**

Pool chemicals are required to create a balance of chemistry within the pool water to control pH, acidity, alkalinity, water clarity, metals, algae and bacteria.

Filtration systems, such as sand filters, Demetrious earth (DE) systems and filter cartridges are also cleaned with chemicals. Monitor pool chemicals frequently to keep the water chemistry in balance to reduce water issues and maintain clear, clean pool water throughout the season.

#### **Warning**

Some pool chemicals are corrosive, and many are potential health hazards. Always store pool chemicals in a cool, dry environment, which cannot be accessed by children, and in their original containers. Do not re-use pool chemical containers for other chemicals since the plastic can absorb the original chemical and react with other chemicals.

## **pH Balance**

A balanced pH level increases water clarity, effectiveness of disinfection chemicals and reduced eye irritation for swimmers. Maintaining pH is the most important factor in maintaining pool water chemistry. Soda ash, sodium bicarbonate, calcium hypochlorite and caustic soda are used to raise pH. Muriatic acid, gas chlorine, trichlor chlorine and dichlor chlorine are used to lower pH.

## **Alkalinity**

Properly maintained alkalinity helps to prevent sudden changes in pH. Sodium bicarbonate, soda ash or sodium sesquicarbonate are used to raise alkalinity. Muriatic acid or sodium bisulfate are used to lower alkalinity. When both pH and alkalinity are low, sodium bicarbonate or soda ash will raise the level of both. When both pH and alkalinity are high, muriatic acid will lower the level of both.

## **Calcium hardness**

Low calcium hardness can cause pitting of plaster pools. High calcium hardness can cause scale formation and cloudy water. Calcium chloride is used to raise calcium hardness. A hydrous trisodium phosphate is used to lower calcium hardness. Another method to lower calcium hardness is to drain some of the pool water and refill the pool with fresh water.

## **Sanitizers**

Chlorine is the most popular pool water disinfectant. Managing all the proper levels of pH, alkalinity and calcium will help to maintain a proper level of free chlorine for optimal disinfection. Bromine is another popular chemical pool water disinfectant that is similar to chlorine.

## **Shock**

This is the practice of adding significant amounts of an oxidizing chemical to water to destroy ammonia, nitrogen-containing and organic contaminants. Adding chlorine as a shock treatment can also control algae and bacteria, but read the label to make sure that your product can do this.

## **Algae prevention**

Phosphates are one of algae's limiting nutrients. Algae is a plant that requires nutrients to grow. Those nutrients are phosphates, carbon dioxide, sunlight and nitrates. If you allow these conditions to exist you will eventually experience algae problems. The key is to use products that remove phosphates from your water and on your filter media.

## **Clarifiers**

Water clarity can be reduced by suspended particles in the pool water. Clarifiers bind small particles together to increase the ability of the filtration system to filter out the larger, bound together, particles. Flocculants, such as alum, work in the same way as clarifiers, binding smaller suspended particles into larger particles that can be trapped by the filter more easily. Clarifiers and flocculants can be poured directly into the skimmer or dispersed through the pool water to improve the ability of the filter to trap small suspended particles.