

# Pool Chemical Functions

## Chlorine

Chlorine is a very efficient sanitizer. It not only kills bacteria it will break down organic material. Like most sanitizers though it is unstable. You should use chlorine that is bonded to another chemical to make it solid and easier to handle. When the solid dissolves in the water the chlorine breaks free and destroys bacteria. The chlorine gets used up as it destroys bacteria but it can also be burnt off by sunlight, so if you want it to stay longer in your pool this unstable chemical needs to be stabilized.

There are 3 main types of chlorine you can put in your home pool. The two most common types have chlorine bonded with Cyanuric acid. These are 'Granular Chlorine' and 'Trichlor Tablets'. The granules go straight in your water, the tablets go in a feeder or your skimmer basket.

The Cyanuric acid stabilizes the chlorine helping it stay in the pool and not be burnt off by the sun. But the chlorine will eventually go but the Cyanuric acid stays behind and each time you add these to the pool you add more and more cyanuric acid. So what? If it stabilizes the chlorine it must be good? Well, no, too much Cyanuric acid will 'over stabilize' your pool and the chlorine won't be able to destroy bacteria properly. To lower the Cyanuric acid level you have to 'dilute' your water. Silly as the concept of diluting water may seem it is quite logical. You must remove some over stabilized water to rid yourself of the Cyanuric acid and top up with tap water. A well maintained pool rarely has this problem because its owner regularly gives the filter a good backwash thus taking out pool water and replacing it with tap water.

The other type of chlorine is un-stabilized. This is called shock treatment. But you do not want the high levels of chlorine to remain because you want to swim in the water later. Un-stabilized chlorine soon burns off leaving you with a clean pool and normal chlorine levels. The chlorine used in shock treatment is usually bonded to calcium and this does not cause excessive problems as a residue.

It is a good idea to 'shock' your pool every two weeks or so even if you may think it does not need it. Never use stabilized chlorine to 'shock' your pool - it is a waste of good chlorine, it will take much longer to 'calm' down to normal levels and will add loads of unwanted Cyanuric acid to your water.

## pH Adjustment

Good water balance is essential to allow your chemicals to work properly and for the water to be pleasant to swim in.

The most important part of water balance is its acid content. Acid content is measured on a scale called the pH scale. 7 on the scale is neutral, 2 is most acid, 14 is least acid (alkaline). The water in your eyes comes in at 7.4 on the pH scale and so, for 'bather comfort', as it is called, that is the ideal pH for your pool water. But to get best use out of your chlorine the pH should be 7.0 or lower. So the best compromise is anything between 7.2 and 7.6.

Getting water to the right pH is a slow procedure though simple. You add acid (or alkali) to your pool in the dosages recommended on the pack and wait 24hrs to see if it was enough and if it wasn't do it all again until it is. In hard water areas you may be adding acid all summer long.

There is more to water balance than just pH levels. Another factor is the water's 'Total Alkalinity' (TA). If the TA level is too low the water will not maintain a consistent pH and if it is too high it becomes

hard to move the pH value. The ideal level is 100ppm to 150ppm but many pool owners are forced to put up with high TA because the water out of the tap has such a high TA.

## **Floc**

Floc is short for flocculent. Flocculents are a chemical that make small particles join with each other to make bigger particles. This is handy for swimming pool owners because their pools tend to get little bits of dead algae and skin in them that make the water go cloudy and these can be too small for the filter to strain out.

There are two main types of flocculent but they are both the same chemical - Aluminium Sulphate also known as just plain 'alum'. In one form it is in flaky granules in the other it is a solid tablet (kibbled alum). The latter is used to 'polish' up a pool that is getting a bit cloudy the former as a last resort on a truly mucky pool (or as a first resort when opening up after winter).

Kibbled alum tablets are added to the water via the skimmer basket. Don't put them in the circulation pump strainer basket because the water in there goes too fast for them, keep the filter going full time. The alum dissolves and forms a coating on top of the filter sand. Then, as the little particles come by it grabs them and keeps them. But in doing so it blocks up the top of the filter and can increase the filter pressure. If the pressure gets too high the coating breaks up and gets washed through the filter and back into the pool taking all the little bits with it and you are back to square one. So, always thoroughly backwash the filter before putting the alum in and keep an eye on the pressure while it is in there. If it gets too high backwash add more tablets. In any case backwash after 48hrs of filtration and if the pool isn't clear enough do it again. It may take three or four goes before you get it perfectly clear.

There are other chemicals you can use to clarify your pool, the term floc tends to apply to Alum. Pool Clarifiers, as they are usually called, do the same as Alum in that they gather small particles together but they work by putting an electrical charge on the particles. The general name for them is Cationic Liquid Clarifiers and there are many types. They work very well and quite quickly but are much more expensive than Alum. They now make them in a gel form that makes them easier to handle and use but no less expensive.

Please check out our other guides for more help and advice for your swimming pool or spa or if you have any questions then feel free to contact us.