



# GUIDE TO SPARKLING POOL WATER

A SIMPLE TO FOLLOW GUIDE TO  
CLEAN, CLEAR, HYGIENIC WATER

**pool**  
master

[paramountpools.co.nz](http://paramountpools.co.nz)

 Paramount Pools and Poolquip NZ



## WHAT MAKES POOLS DIRTY?

In a sterile environment, your pool would never need cleaning. But every day it is bombarded with dirt and bacteria.

**PEOPLE** - Every time you step into your pool, you unknowingly give off bacteria and body fats and between 15-50mls of ammonia and nitrogen. Not to mention any dirt you may have picked up near the pool.

**DIRT** - Dust from the wind, bird droppings, decomposing leaves and muddy feet. All contribute to the "not quite clean" state of your pool.



**NEW WATER** - Rain carries sediment and washes dirt in from the side of the pool. Even fresh tap water is far from pure.

**ALGAE** - In any body of water that is not constantly moving, there will be a gradual build-up of algae. Algae comes in thousands of types and many colours.



## HOW CAN I CLEAN IT?

You use chlorine to kill the bacteria and algae. Your filter removes dirt and dead algae in the water. The vacuum picks up the dirt and dead algae that has sunk to the bottom.

## HOW DOES CHLORINE KILL THE BACTERIA?

Simple chemistry tells us that chemicals "react" when they are combined with other chemicals and substances. Part of the chlorine "reacts" with the bacteria in the water and forms "chloramines", (spent chlorine).

The rest of the chlorine, known as Free Available Chlorine (FAC), then destroys the chloramines by a process called oxidation. Chloramines often cause the very distinct "chlorine smell" often experienced near pools.

This means there is not enough Free Available Chlorine to kill the chloramines. Simply add more chlorine. Chlorine works instantly and effectively. It is still the cheapest, most efficient pool sanitiser available.

## WHAT IS pH?

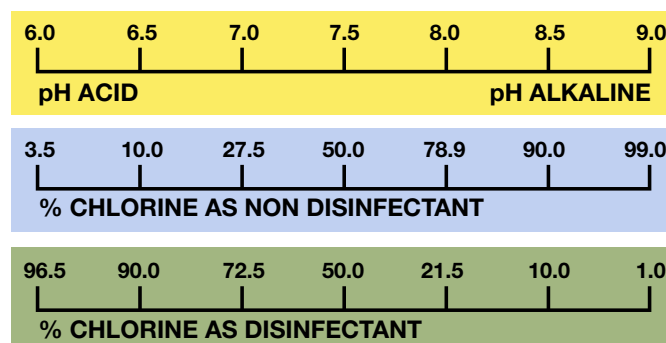
It is a simple measure of the acidity or alkalinity of your water. The scale runs from 0-14. As the chart shows, 0 is **extremely acidic** and 14 is the opposite (**very alkaline**). Neutral (**neither acidic nor alkaline**) is at 7.

## WHY IS pH IMPORTANT?

The pH of the human eye is about 7.4. For comfortable swimming, it is best to have your pool water at the same level. If you drop too far below 7.4, the water is too acidic (corrosive) and stings your eyes. If the pH rises too far above 7.4, alkalinity irritates your eyes.

Also, chlorine works best in an acidic environment. So if your water is too alkaline, you need much more chlorine to kill the bacteria and algae. (See diagram). Ideal pool pH from 7.2 to 7.6

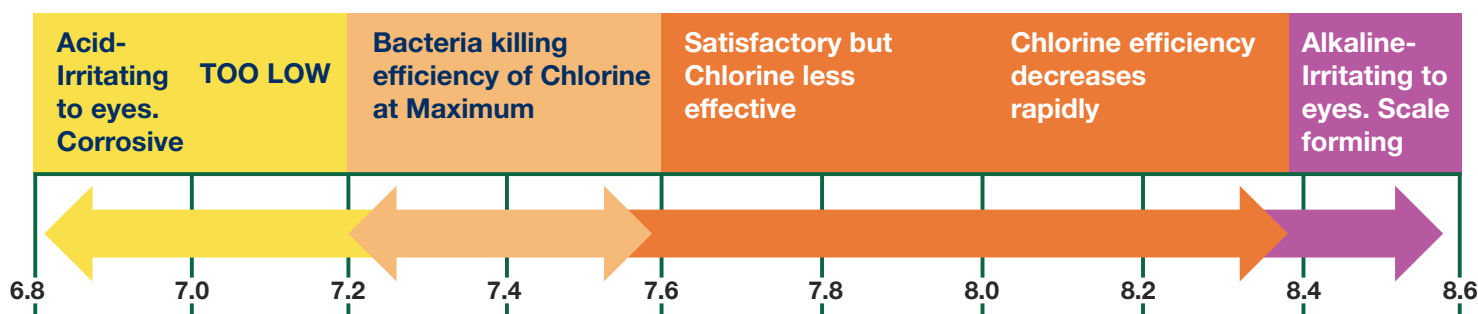
## NEUTRAL



## WHAT IS WATER BALANCE?

Water quality varies widely, depending on its source. So depending on where you live and whether your pool is filled by tap, bore or rainwater, you will have to treat it differently to obtain ideal pool conditions. To get pool water "in balance" we need to know three things.

- the pH
- the Total Alkalinity (amount of carbonates, bicarbonates and hydroxides in the pool water)
- Calcium Hardness (rain water is "soft", bore water is normally "hard" and tap water can be either, depending on the level of calcium)



## WHY IS WATER BALANCE IMPORTANT?

If your water is "in balance" the pH will stay more stable. Your pool will be more economical to run, because you will get more effective use of your chlorine. The pool water will be non-corrosive to metal parts and scale won't form in the pool. Correct "total alkalinity" acts as a buffer to sudden changes in pH.

If, for example, there is a heavy rainfall, your pH can rise dramatically and become alkaline. If total alkalinity is correct, the change will be less drastic.

Extreme water hardness can cause loss of clarity, encrustation of filters and pipes, solidification of the sand in your filter and rough, stained pool surfaces (scale forming).

### Summary of Water Balance Parameters:

#### pH

7.2 to 8.0 (ideal - 7.2 to 7.6)

#### Total Alkalinity

100 to 150 ppm (plaster pools)

125 to 175 ppm (fibreglass, vinyl or painted)

#### Calcium Hardness

225 to 300 ppm (plaster pools) / 175 or 250 ppm (fibreglass, vinyl or painted)



## WHAT DO I DO NOW?

We have explained the influences on pool water clarity. Now we translate it into action.

### STEP 1. GET YOUR WATER IN BALANCE

We suggest you take a sample of your pool water to your stockist. They will test it and give you a report on pH, total alkalinity and calcium hardness levels.

Plot these on the Taylor Watergram scale and draw a line between them. The ideal is a straight line between all three. Correct the Total Alkalinity and Hardness first. Total Alkalinity can be raised by adding Pool Master Alkalinity Up (Sodium Bicarbonate) or Pool Master pH Decrease (Sodium Bisulphate) and lowered by adding Pool Master Hydrochloric Acid.

The ideal range is between 100 and 175 parts per million (ppm). Calcium Hardness can be increased by adding Pool Master Water Hardener. It can be decreased by diluting the pool with fresh water.

Recommended level is between 175 and 300 ppm. Calcium Hardness should never exceed 400 ppm. Once in balance, it should be easy to keep these factors within the acceptable range. You normally need to test for hardness only twice a season.

Once at the start of the season and again in mid-summer. (If you experience particularly heavy rain, it pays to check that your water balance has not been affected too badly).

Test for total alkalinity once a month.

Remember, this acts as a buffer to sudden changes in pH.

### STEP 2. CORRECTING PH

Correct pH is vital to swimmer comfort and chlorine efficiency.

It can be raised with Pool Master pH Increase (Soda Ash) and decreased with Pool Master pH Decrease (Sodium Bisulphate). Because correct pH is so important, it should be tested weekly and adjusted when necessary.

### STEP 3. CHLORINE TREATMENT

Chlorine comes in various forms. Your stockist will recommend the best product for your particular pool size, type and needs.



## SHOCK DOSING

Shock dosing is an essential part of any pool maintenance programme. There are literally thousands of bacteria and algae types growing in the domestic swimming pool. Some build a resistance to normal chlorine levels.

To reduce them back to an acceptable level, shock dose with twice the normal amount of chlorine every 7-10 days (depending on bather load).

If using Pool Master Super Chlor or Tri Chlor tablets as a daily dose, shock dose with Pool Chlor Granules to avoid excessive build-up of Cyanuric Acid.

Pool Master Pool Chlor pills can be used for shock dosing by simply doubling the normal number of pills used. Shock dosing is perfectly safe, but should be done after, not before, swimming.

## CHLORINE TESTING

All forms of chlorine should be used in conjunction with a reliable test kit. Test after every dose. A chlorine residue of between 1.5 and 3 ppm should be maintained at all times.

Remember, if there is a strong chlorine smell, add more chlorine.

### FOUR SIMPLE RULES FOR A CLEAR, SPARKLING POOL

1. ESTABLISH CORRECT WATER BALANCE
2. MAINTAIN PH BETWEEN 7.2 AND 7.6
3. MAINTAIN CHLORINE RESIDUE OF 1.5 TO 3 ppm.
4. SHOCK DOSE EVERY 7 to 10 DAYS.

## SAFETY

Always keep your chlorine and conditioning chemicals in a cool dry place and out of reach of children.

1. Never combine different chemicals or types of chlorine.
2. Always add chemical to water, never water to chemical.

## FIRST AID

If Pool products accidentally contaminate skin or eyes, immediately flush with copious amounts of water. If swallowed DO NOT induce vomiting. Give plenty of milk or water.

Seek medical advice or ring the National Poisons and Hazardous Chemicals Information Centre, Dunedin  
**Phone 0800 764 766 0800 POISON**



## COMMON PROBLEMS

### PROBLEM: GREEN WATER

**CAUSE:** Algae on the sides and bottom of pool

**SOLUTION:** Adjust pH to 7.2 - 7.6.

Shock dose with Pool Master Pool Chlor Granules. Brush the side and vacuum the bottom. Run filter. If algae growth persists, lower the pH to 6.8 with Pool Master pH Decrease. Shock dose, vacuum and shock dose again. Readjust pH to 7.2 - 7.6 with Pool Master pH Increase.

**CAUSE 2:** Cyanuric lock. When over 70-100 ppm Cyanuric Acid builds up.

**SOLUTION:** Partially drain the pool and fill with fresh water. Readjust water balance.



### PROBLEM: CLOUDY WATER

**CAUSE:** Rise in pH level because of heavy rain or bather load.

**SOLUTION:** Adjust pH to 7.2 - 7.6 with Pool Master pH Decrease. Shock dose and run filter for 12 hours.

**CAUSE 2:** Poor filtration

**SOLUTION:** Call filtration expert to check filter. This should be completed every 3-4 years or whenever problems occur. Remember good filtration assists your water balance.



### PROBLEM: CHLORINE SMELL

**CAUSE:** Not enough chlorine. Part of the chlorine combines with bacteria and algae to form chloramines.

The remainder kills the chloramines.

If insufficient chlorine is present, chloramines will form, but will not be killed. It is the chloramines that give off the chlorine smell.

**SOLUTION:** Shock dose with Pool Master Pool Chlor Granules or Super Chlor to boost the amount of Free Available Chlorine.



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