

Upper limits

Free chlorine levels above 3mg/l should not be necessary in any pool using hypochlorite. If this is exceeded, dosing should be reduced.

If dosing has gone wrong and free chlorine reaches 5mg/l, chlorination should be stopped immediately; if free chlorine continues to rise bathing should cease until the fault has been rectified and the residual is under control.

9.6) Chloroisocyanurates

The same principle applies to pools on chloroisocyanurates (or with cyanurates added as a chlorine stabiliser). Chlorine residuals of up to 5mg/l may be necessary in normal operation. For pools using chlorinated isocyanurates as disinfectant, free chlorine should be maintained at 2.5-5mg/l and the cyanuric acid at no more than 150mg/l.

Some automatic controllers may not be accurate in the presence of cyanuric acid and their compatibility should be checked.

9.7) Combined chlorine levels

The level of combined chlorine residuals should be as low as possible. They should always be less than half the free chlorine, and no more than 1mg/l no matter what the level of free chlorine.

If this ratio of combined to free chlorine is unsatisfactory, some correction may need to be applied.

(see *Swimming Pool Water*)

9.8) pH value

The pH values for the pool water should be maintained within the range recommended for the disinfectant being used. But a pH value of between 7.2 and 7.4 should be the target when using chlorine-based disinfectants. At levels above this range the free chlorine will not be so effective and accordingly may need to be increased.

9.9) Alkalinity

To ensure effective coagulation and a stable pH when using acidic disinfectants, alkalinity in pool water should be maintained at a level between 80 and 200mg/l (measured as CaCO₃).

Alkalinity measurements should be taken weekly, using commercially available alkalinity test kits and the appropriate tablets. Dilution or dilute acid should be used to lower the levels of alkalinity.

9.10) Calcium hardness

Pool water should be maintained for bather comfort, and grout should withstand that water. Ideally calcium hardness should be maintained between 80 and 200mg/l as CaCO₃.

However, in areas with a hard water supply this cannot be practically achieved. It is therefore very important that water treatment chemicals do not further enhance