Physical Activity and Leisure Management Ltd

ADDING CHEMICALS TO POOL WATER

It is very difficult to give a direct answer to the question of "How much chemical should I add?" Most pool operators will ask this question when there is already some disinfectant available in the pool water, but the level needs to be raised to an acceptable point. It will also depend on the volume of the pool, naturally.

When adding chemicals, the following practices are to be observed:-

- The pool should be clear of bathers, when adding chemicals manually.
- All chemicals must be made into a solution, by adding chemicals to water; NEVER water to chemicals.
- All chemicals MUST be dissolved in cold water first, and introduced into the overflow channels, or into the strainer chamber, to reduce the risk of producing 'chemical hot-spots' in the pool itself.
- Containers used to mix chemicals into solution should be cleaned of any previous chemicals before use.

As an example, only, if we assume a swimming pool is **25m (length) x 12m (width) x 1m-3m (depth),** a volume of **450m³**, then the following can be used as a guide. For pools with a different volume, then the appropriate percentages should be used.

To raise the free chlorine level of the pool by 1.0mg/l, and using calcium hypochlorite at 65% strength, the calculation would be 450 (volume) divided by 0.65 (strength of the disinfectant). The result is expressed in grams. This calculation would be 450 ÷ 0.65 = 692 grams.

The table below gives an approximation, only, and manufacturers' guidance must be adhered to at all times.

	To raise Free Chlorine by 1.0mg/l	To raise pH by 0.1	To lower pH by 0.1	To raise Total Alkalinity by 10mg/l	To raise calcium level by 10mg/l	To dechlorinate by 10mg/l
Calcium hypochlorite (65%)	**150g/ 100m³**					
Calcium hypochlorite (85%)	**130g/ 100 m³**					
Sodium hypochlorite	**0.5 lits/ 100m³**					
Sodium carbonate		**1kg/ 100m³**				
Sodium bisulphate			**1kg/ 100m³**			
Hydrochloric acid (25% solution)			**0.5lts/ 100m³**			
Trichlor-isocyanuric acid	**185g/ 100m³**					
Sodium bicarbonate				**1kg/ 100m³**		
Calcium chloride (flake)					**1kg/ 100m³**	
Sodium thiosulphate						**500g/m³ (added gradually)**