



Water Chemistry

TEDDY BEAR POOLS & SPAS



pH LEVEL (7.2-7.6)

In swimming pools, pH has the most impact on proper water balance and overall swimming comfort. There are many factors that influence pH level in pools:

- Swimmer waste.
- Sanitizers.
- Tap water.
- Air-borne particles.

The recommended pH level in swimming pools is 7.2-7.6 the same pH as the human eye. Low pH levels are acidic and can cause a number of problems, mainly corrosion and the wrinkling of pool liners. High pH levels can cause scaling and affect chlorine negatively.

FREE CHLORINE (1.0-3.0)

Free chlorine is the level of chlorine that can still sanitize/kill bacteria in the pool. Along with pH it is the most important level to maintain for the customer.

COMBINED CHLORINE (0.0)

Combined chlorine is the total of the free chlorine added to the 'dead' or used chlorine in the water. The combined level should never be allowed to get .5 ppm higher than the free chlorine in the pool. If so an excessive amount of super-chlorination (shock) is needed to close that gap, called breakpoint.

TOTAL ALKALINITY (120-175)

Total alkalinity is the measure of the ability of the pool water to resist changes in pH, basically acting as a pH buffer. When alkalinity is too low, the pool water will be affected by pH bounce. Acid rain and high bather load continually lower alkalinity levels. When alkalinity is too high, the pH runs too high and becomes very difficult to change.

CALCIUM HARDNESS (175-350)

All water needs calcium. In a pool, when the water does not have a sufficient amount it will draw from the next available source (i.e. vinyl liners), becoming aggressive or corrosive to the surface. High calcium levels can result in several problems, the main issue being scaling of pipes and/or equipment. Lowering the hardness level in pools is extremely difficult, and usually involves partial draining and replacing with tap water.

CYANURIC ACID/STABILIZER (35-80)

The free chlorine level of stabilized chlorines can be protected by the U.V. light in sunlight by the addition of stabilizer to the water. The chlorine level in a swimming pool can be cut in half without the aid of CYA. An abnormally high CYA level may lead to an increased risk of algae. Stabilizer will NOT work on bromine.

TOTAL DISSOLVED SOLIDS (less than 1000)

The (TDS) level is the total weight or saturation of all soluble matter that has gone in the pool water. Almost everything adds to this level, and if allowed to get too high the only solution is a partial drain of the pool water.

COPPER/IRON (0.0)

There should never be any metals present in the pool water, as even the slightest of levels could lead to staining of the water or liner. Before treating for metals please ask the customer if they add 3-Month Algaecide or run a heater, as both have copper in them.

IDEAL LEVELS FOR VINYL LINED POOLS:

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PH	(7.4-7.6)
FREE CHLORINE	(1-3)
TOTAL CHLORINE	(less than .5)
CALC. HARDNESS	(175-350)
TOTAL ALKALINITY	(120-175)
CYA/STABILIZER	(35-80)
TDS	(less than 1000)
COPPER	(0.0)
IRON	(0.0)