Health and Human Services Department
Placer County Environmental Health

STANDARDS FOR CHEMICAL LEVELS IN SWIMMING POOL/SPA/WADING POOL/SPRAY GROUNDS

Chemicals	Minimum	Maximum	Ideal
Free Chlorine (FC) residual	1.0 ppm (*spa/wading/spray 3.0 ppm*)	10.0 ppm	2.0 – 3.0 ppm
FC w/ CYA (stabilizer or conditioner)	2.0 ppm (*spa/wading/spray 3.0 ppm*)	10.0 ppm	2.5 – 3.5 ppm
Bromine	2.0 ppm (*spa/wading/spray 4.0 ppm*)	None	4.5 – 6.5 ppm
pH	7.2	7.8	7.4 – 7.6
Cyanuric Acid (CYA)	0	100 ppm	30-50 ppm
Spa temperature	none	104 °F	

REMINDERS:

- **Testing frequency** for the pools and spa are dictated by health codes and health laws. The operator **must meet or exceed the minimum daily requirements** for testing based on conditions of use and environment. *Excessive or heavy user loads may require testing every hour or two.*
- **Disinfectant** (sanitizer levels), **pH** and **Spa temperature** must be **tested minimum once daily** since these tests have a direct bearing on the safety of the patrons and facility.
- **Samples** for testing should be **taken from a depth of at least 18 inches below the water surface** and from a location well **away from any return inlets**.
- When **adding reagent** drops to the sample, **hold the dropper bottle straight up in vertical position** to ensure the correct drop size and to get accurate test results.
- The **reagents and the sample water** must be properly **mixed (at least 40X) to reach the end points**. If using titration method, the sample must be swirled after each drop of titrant; the **end point (**color change**) must be permanent** and not fade back toward the previous color.
- When using color block comparator always **hold the comparator at eye level to the northern horizon** to properly match the sample color to the standard. Do not test with fluorescent light as the source.
- Test kits must be **protected from heat and light and exposure to chemical fumes and debris**. Colored reagents or those stored in brown bottles have shorter shelf life. **Discard and replace reagents** if there is any **change in color, appearance of suspended material or expired dates**.
- **Care should be taken in the handling and storage of all swimming pool chemicals**. These chemicals should be **stored separately** from one another and should **never be mixed** in order to prevent harmful chemical reactions from occurring (*pool chlorine and pool acid if mixed together will produce chlorine gas, which if inhaled could be fatal*) Never mix Calcium hypochlorite with Trichlor, it will cause an explosion.
- **Remember to always follow manufacturer's instructions when using any chemicals. Always add chemicals to water.**

NOTE: If you want balanced pool water, other chemicals such as Total Alkalinity (80-180 ppm), Calcium Hardness (150-1000 ppm), and Total Dissolved Solids (300-1500 ppm) must be checked as well and maintained within the recommended range. If you have an ORP Meter maintains ideal reading @ 720 to 750 mV.