

3 TECHNICAL TIPS AND INFORMATION

Taylor Test Tips:

Taylor test kits are designed to be highly accurate. Tests properly done, yield results that are reliable and consistent from one staff member to another. We have compiled a checklist of the key 'good practice' tips in testing - check these against existing procedures to fine tune the process at your facility.

TESTING PROCEDURE:

Ensure all staff use the same test procedure to get test results that can be compared one reading to another:

- Always rinse test cells three times before a test.
- Take sample water from the same place every test. Ensure sample size is exactly correct (meniscus at line).
- Ensure sample is taken a foot below surface and from wall.
- When shaking to mix sample in a test cell use a test cell cap (never a finger) to cover cell.
- Always hold reagents straight up and down when dropping reagents (bottle on side changes drop size). Do not allow reagent bottle to touch edge of cell; and dry end of bottle with a clean paper towel, if necessary before replacing cap.
- For drop tests swirl after each drop.
- Use same light source every time. Taylor is designed for northern light. In practical terms we suggest use of Taylor's dalite lamp for the slide kits and holding acrylic test block up to a florescent light for kits K2000/2005.
- Don't interpolate a reading that is not on the scale. People see color differently, always pick a color on the scale that is closest to test sample as the test result. Don't focus on color intensity - narrow down to one spot on comparator or slide where color is best match.

Test results should always meet the test of reasonableness.

TEST KIT CONSIDERATIONS:

- A) Use appropriate test kit for the job. There are three considerations to ensure a good chlorine result:
- Chlorine level must match kit range i.e. Cl_2 0-3 or 0-10 slides.
 - Use long-range drop test (K9022) when super-chlorination takes chlorine levels higher than 10.
 - Non-shock oxidizing products (Oxiout & Oxibrite) turn combined Cl_2 test pink, use Oxibrite test kit (K1518) for true Cl_2 reading when using these products.
- For pH test there is one consideration: be aware pH test is not valid when Cl_2 is over 10 ppm. (Red is bleached out above 10ppm).
- B) Reagent Information:
- Always use fresh reagents (check storage information on reagent price list p 47); store reagents out of light between 36° & 85° F. Discard any reagent that has been frozen.
 - Be very careful not to contaminate reagents when refilling bottles.
 - DPD reagents 1, 2, & 3 are sold only in 2 OZ bottles. Always use fresh DPD bottles - do not refill one bottle to another for these reagents.
- C) Replace test cells or test block when the acrylic material will not clean to crystal clear. Oils from fingers change the color of test cells and blocks over time - replace as required.

Saturation Index Guideline

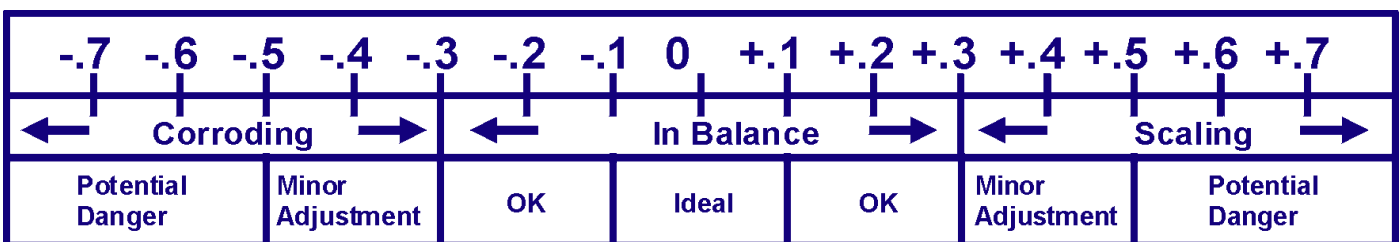
A professional facility manager will maintain a "Total Balance" in his pool water by periodically testing and adjusting pH, Calcium Hardness, Total Alkalinity and Temperature. The saturation index equation shows you whether these four water parameters are "In Balance" or causing damage to your facility through corrosion or scaling. Use the equation and chart below to determine your pool water saturation index.

Watertest	pH	CALC	ALK	TEMP
	7.5	300	100	84
Index Factors	PF	CF	AF	TF
	7.5	2.1	2.0	0.7

Index Equation: $7.5 + 2.1 + 2.0 + 0.7 - 12.1 = +2$

Saturation Index = PF + CF + AF + TF - (12.1)

pH Test	pH Factor	Calcium Hardness Test PPM	Calcium Factor	Total Alkalinity Test PPM	Alkalinity Factor	Temp. Factor	Temp. Factor
	PF	PPM	CF	PPM	AF	F°	TF
7.0	7.0	5	0.3	5	0.7	32	0.0
7.1	7.1	25	1.0	25	1.4	37	0.1
7.2	7.2	50	1.3	50	1.7	46	0.2
7.3	7.3	75	1.5	75	1.9	53	0.3
7.4	7.4	100	1.6	100	2.0	60	0.4
7.5	7.5	150	1.8	150	2.2	66	0.5
7.6	7.6	200	1.9	200	2.3	76	0.6
7.7	7.7	300	2.1	300	2.5	84	0.7
7.8	7.8	400	2.2	400	2.6	94	0.8
7.9	7.9	800	2.5	800	2.9	105	0.9
8.0	8.0	1000	2.6	1000	3.0	128	1.0



Chemical Dosage Table

Desired Change	Amount	Product	Dose per 50000 Gal.	Dose per 100000 Gal.
Raise Calcium Hardness	+10PPM	Calcium Chloride	5.5 pounds	11 pounds
Raise Alkalinity	+10PPM	Sodium Bicarbonate	7.5 pounds	15 pounds
Lower Alkalinity	-10PPM	Muriatic Acid	Approximately .8 Gallon	Approximately 1.6 Gallon
Lower Alkalinity	-10PPM	Sodium Bisulfate	Approximately 8 pounds	Approximately 16 pounds
Increase Chlorine	+1PPM	Gas Chlorine	.4 pound	.8 pound
Increase Chlorine	+1PPM	Sodium Hypochlorite	.4 Gallon	.8 Gallon
Increase Chlorine	+1PPM	Calcium Hypochlorite	.65 pound	1.3 pound
Decrease Chlorine	-1PPM	Sodium Thiosulfate	.4 pound	.8 pound
Decrease Chlorine	-1PPM	Sodium Bisulfite	.6 pound	1.2 pounds
Increase CYA	+10PPM	Cyanuric Acid	4 pounds	8 pounds
Increase Salt	1.0 GPL*/1000 PPM	Salt	417 pounds	833 pounds

*Grams per litre

Soda Ash System - a few steps can minimize clogging

Get The Solution Right

Total solubility of soda ash is 21% by weight. That is 175 pounds per 100 gallons of water. At high concentrations crystallizing and clogging of feed pumps, lines and injectors will occur.

Maximum recommended solution is 7% (40 pounds soda ash per 100 gallons of water). But solution strength of 30 pounds soda ash per 100 gallons of water will result in much more trouble free operation.

Preventative System Cleaning

A diluted solution of muriatic acid works well (4 parts water, 1 part acid) to dissolve soda ash formations inside feed line, injectors, etc. We recommend pumping this solution through the system before it is totally clogged to prevent the need for manual disassembly and cleaning. Adjust frequency as needed. You may also "tune" the feed pump to minimize crystallization. Soda ash tends to drop out of solution when it is not moving; set speed/stroke to ensure pump works as much as possible without under feeding pool (that is maximize actual pumping time by turning down feed rate and or stroke).