



# Aquatic Consulting Services

1220 Rosecrans Street #915 • San Diego • California • 92106

## Pool Tip #49: Pool Chemical Adjustments

**Note:** Dosages required to chemically adjust **10,000 gallons** of water per **1 ppm**

### Chlorine Compounds

Sodium hypochlorite (10%)	1.5 cups
Sodium hypochlorite (12%)	1.3 cups
Sodium hypochlorite (15%)	1.0 cups
Lithium hypochlorite (35%)	10.5 ounces
Sodium dichloro-s-triazinetrione (60%)	2.25 ounces
Calcium hypochlorite (65%)	2.0 ounces
Trichloro-s-triazinetrione (85%)	1.5 ounces
Gas chlorine (100%)	1.3 ounces

### Neutralize Chlorine

Sodium thiosulfate	1 ounce
Sodium sulfate	3.2 ounces
Hydrogen peroxide (35%)	2.6 fluid ounces

### Total Alkalinity

Lowering total alkalinity with sodium bisulfate  
(Volume ÷ 47,056) x \_\_\_ ppm desired change = \_\_\_ pounds

Lowering total alkalinity with muriatic acid  
(Volume ÷ 125,000) x \_\_\_ ppm desired change = \_\_\_ quarts

Raising total alkalinity with sodium bicarbonate  
(Volume ÷ 71,425) x \_\_\_ ppm desired change = \_\_\_ pounds

Raising total alkalinity with sodium carbonate\*  
(Volume ÷ 113,231) x \_\_\_ ppm desired change = \_\_\_ pounds

- \* Use sodium carbonate only if both pH and total alkalinity need to be raised, and TDS and calcium hardness levels are low --otherwise a white calcium carbonate precipitate will form

### Calcium Hardness

Calcium chloride (100%)	1.6 ounces
Calcium chloride (77%)	2 ounces
Sodium hexametaphosphate	6.4 ounces (initial dose) 1.25 ounces (maint. dose per 2 weeks)

### Stabilizer

Cyanuric acid	1.3 ounces
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### Langelier Saturation Index

$$SI = pH + Af + Cf + Tf - TDSf$$

Temp. F°		Calcium Hardness		Total Alkalinity		TDS	
66	0.5	75	1.5	50	1.7	<1,000	12.1
77	0.6	100	1.6	75	1.9	>1,000	12.2
84	0.7	150	1.8	100	2.0		
94	0.8	200	1.9	150	2.2		
105	0.9	300	2.1	200	2.3		
		400	2.2	300	2.5		
		800	2.5	400	2.6		
		1000	2.6				

### Pounds per PPM

If the chemical is 100% full strength  
 (Pool volume x 8.33 pounds per gallon) ÷ 1,000,000 = Pounds required for 1 ppm

If the chemical is less than 100% full strength, calculate ppm by  
 Pounds for 1 ppm ÷ Decimal strength = Pounds required for 1 ppm