

# Alkalinity P & T to Test for Mixtures of Hydroxide and Carbonates

KS-0020B

1 Drop = 10 ppm Alkalinity as CaCO<sub>3</sub>

- Fill the graduated reaction vial (PS-1060) to the 10 mL line with the water sample. If the sample is not chlorinated, skip step #2.
- Add 5 drops of Sodium Thiosulfate 1.0 N Solution (RS-0025) and mix.
- Add 5 drops of Phenolphthalein Indicator Solution (RS-0001) and mix. If the solution remains colorless, P Alkalinity is noted as zero, then skip to step 5. If there is P Alkalinity the sample will turn pink.
- Add Alkalinity Titrating Solution (RS-2010/10), drop by drop, mixing after each drop until the sample turns colorless. This is the P reading.
- To a new 10 mL sample, add 5 to 6 drops of Mixed Indicator Solution (RS-1050) and mix by swirling. If the sample turns orange/red, there is no alkalinity. Alkaline samples will turn blue-green. CAUTION: If the sample turns yellow after the addition of the indicator a new sample need to be taken and 10 drops of 1.0 N sodium thiosulfate added to remove the chlorine.
- Add Alkalinity Titrating Solution (RS-2010/10), drop by drop, swirling after each drop, until the sample turns orange/red. This is the T reading.

Results of Titration	Hydroxide Alkalinity as CaCO <sub>3</sub>	Carbonate Alkalinity as CaCO <sub>3</sub>
P = 0	0	0
P < 1/2T	0	2P
P = 1/2T	0	2P
P > 1/2T	2P-T	2(T-P)
P = T	T	0

Results of Titration	Carbonate Alkalinity as CaCO <sub>3</sub>
P = 0	T
P < 1/2T	T-2P
P = 1/2T	0
P > 1/2T	0
P = T	0

**P Alkalinity** in ppm of CaCO<sub>3</sub> = # of Drops to the Color Change in Step 3 x 10

**T Alkalinity** in ppm of CaCO<sub>3</sub> = # of Drops to the Color Change in Step 4 x 10

## Replacement Reagents & Parts

RS-2010/10	2oz	Alkalinity Titrating Solution	RS-1050	2oz	Mixed Indicator Solution
RS-0025	2oz	Sodium Thiosulfate 1.0 N Solution	PS-1060	Each	Graduated Reaction Vial
RS-0001	2oz	Phenolphthalein Indicator Solution	PW-1110	Each	Test Kit Box w/ Foam Insert & Bottom Foam Pad