Guidebook (#2004B) amplifies these instructions and should be read to use this product properly.

POOL & SPA WATER TESTS

Instr. #5140

1. Keep test kit out of reach of children.
2. Read precautions on all labels.
3. Store test kit in cool, dark place.
4. Replace reagents once each year.
5. Do not dispose of solutions in pool or spa.
6. Rinse tubes before and after each test.
7. Obtain samples 18" (45 cm) below water surface.
8. Hold dropper bottle vertically when dispensing reagent.

Free & Combined Chlorine Test

1. Rinse and fill large comparator tube to desired mark with water to be tested.

NOTE: For 1 drop = 0.2 ppm, use 25 mL sample. For 1 drop = 0.5 ppm, use 10 mL sample.

2. Add 2 dippers R-0870. Swirl until dissolved. If free chlorine is present, sample will turn pink.

NOTE: If pink color disappears, add R-0870 until color turns pink.

3. Add R-0871 dropwise, swirling and counting after each drop, until color changes from pink to colorless.
4. Multiply drops in Step 3 by drop equivalence (Step 1). Record as parts per million (ppm) free chlorine (Cl_2).
5. Add 5 drops R-0003. Swirl to mix. If combined chlorine is present, sample will turn pink.
6. Add R-0871 dropwise, swirling and counting after each drop, until color changes from pink to colorless.
7. Multiply drops in Step 6 by drop equivalence (Step 1). Record as ppm combined chlorine (Cl_2).

pH Test

1. Rinse and fill large comparator tube to 44 mL mark with water to be tested.
2. Add 5 drops R-0004. Cap and invert to mix.
3. Match color with color standard. Record as pH units and save sample if pH needs adjustment. If sample color is between two values, pH is average of the two. To LOWER pH: See Acid Demand Test. To RAISE pH: See Base Demand Test.

Acid Demand Test

1. Use treated sample from pH test.
2. Add R-0005 dropwise. After each drop, count, cap and invert to mix, and compare with color standards until desired pH is matched. See Treatment Tables to continue.

Base Demand Test

1. Use treated sample from pH test.
2. Add R-0006 dropwise. After each drop, count, cap and invert to mix, and compare with color standards until desired pH is matched. See Treatment Tables to continue.

Total Alkalinity (TA) Test

1. Rinse and fill large comparator tube to 25 mL mark with water to be tested.*
2. Add 2 drops R-0007. Swirl to mix.
3. Add 5 drops R-0008. Swirl to mix. Sample will turn green.
4. Add R-0009 dropwise, swirling and counting after each drop, until color changes from green to red.
5. Multiply drops in Step 4 by 10. Record as parts per million (ppm) total alkalinity as calcium carbonate ($CaCO_3$).

****When high TA is anticipated***: Use 10 mL sample, 1 drop R-0007, 3 drops R-0008, and multiply drops in Step 4 by 25.

Calcium Hardness (CH) Test

1. Rinse and fill large comparator tube to 25 mL mark with water to be tested.*
2. Add 20 drops R-0010 (or use pipet provided and fill to 1 mL mark). Swirl to mix.
3. Add 5 drops R-0011L. Swirl to mix. If calcium hardness is present, sample will turn red.
4. Add R-0012 dropwise, swirling and counting after each drop, until color changes from red to blue.
5. Multiply drops in Step 4 by 10. Record as parts per million (ppm) calcium hardness as calcium carbonate ($CaCO_3$).

****When high CH is anticipated***: Use 10 mL sample, 10 drops R-0010 (or use pipet provided and fill to 0.5 mL mark), 3 drops R-0011L, and multiply drops in Step 4 by 25.

Cyanuric Acid (CYA) Test

1. Rinse and fill bottle (#9191) to 7 mL mark with water to be tested.
2. Add R-0013 to 14 mL mark. Cap and mix for 30 seconds.
3. Slowly transfer cloudy solution to small comparator tube until black dot on bottom just disappears when viewed from top.
4. Read tube at liquid level on back of comparator block. Record reading as parts per million (ppm) cyanuric acid (CYA).

Sodium Chloride (Salt) Test

For 1 drop = 200 ppm

1. Rinse and fill sample tube (#9198) to 10 mL mark with water to be tested.
2. Add 1 drop R-0630. Swirl to mix. Sample will turn yellow.
3. Add R-0718 dropwise, swirling and counting after each drop, until color changes from yellow to a milky salmon (brick red).

NOTE: A white precipitate will form as R-0718 Silver Nitrate Reagent is added to the sample. Do not add enough R-0718 Silver Nitrate Reagent to give a brown color. First change from yellow to a milky salmon (brick red) is the endpoint.

4. Multiply drops of R-0718 by 200. Record as parts per million (ppm) salt as sodium chloride (NaCl).

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