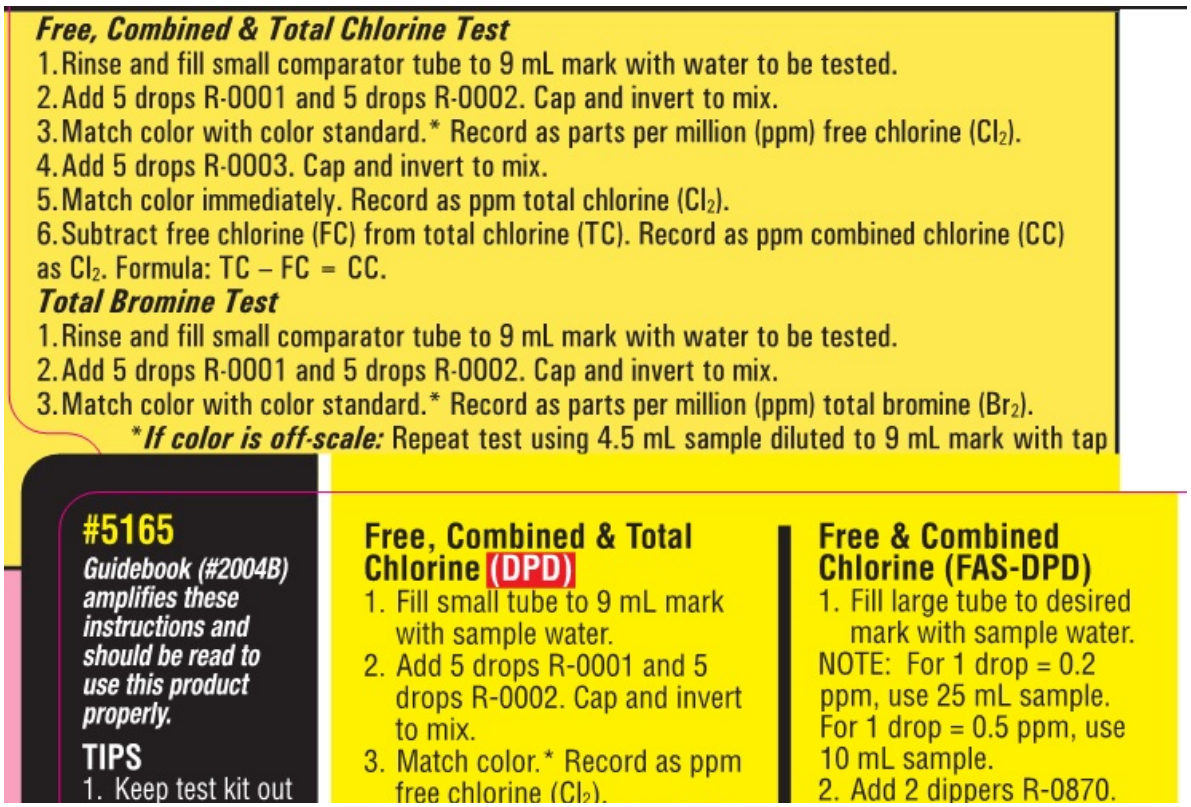
NSF K-2009 Pool Inspector Test Kit Instruction Manual

NSF K-2009 Pool Inspector Test Kit Instruction Manual

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

POOL & SPA WATER TESTS

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.



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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 solution 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.
9. Match colors in sunlight while facing north.

This test kit may not contain all tests shown.

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4. Add 5 drops R-0003. Cap and invert to mix.
5. Match color immediately. Record as ppm total chlorine (Cl_2).
6. Subtract free chlorine (FC) from total chlorine (TC). Record as ppm combined chlorine (CC) as (Cl_2). Formula: TC – FC = CC.

Total Bromine

1. Fill small tube to 9 mL mark with sample water.
2. Add 5 drops R-0001 and 5 drops R-0002. Cap and invert to mix.
3. Match color.* Record as ppm total bromine (Br_2).

**** If color is off-scale:*** Repeat test using 4.5 mL sample diluted to 9 mL mark with tap water. Multiply reading by 2 to obtain approximate sanitizer level.
If color is still off-scale: Repeat test using 1.8 mL sample diluted to 9 mL mark with tap water. Multiply reading by 5 to obtain approximate sanitizer level.

OR

Swirl until dissolved. If free chlorine is present, sample will turn pink.
NOTE: If pink color disappears or no pink color develops, 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 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).

each year.
5. Do not dispose of solution 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.

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K-2005-SALI, K-2007, K-2015, K-2100, K-2105 and K-2115

1. Fill to 9 mL mark with sample water.
2. Add 5 drops R-0001 and 5 drops R-0002. Cap and invert to mix.
3. Match color.* Record as ppm total bromine (Br_2).

**** If color is off-scale:*** Repeat test using 4.5 mL sample diluted to 9 mL mark with tap water. Multiply reading by 2 to obtain approximate sanitizer level.
If color is still off-scale: Repeat test using 1.8 mL sample diluted to 9 mL mark with tap water. Multiply reading by 5 to obtain approximate sanitizer level.

color changes from pink to colorless.
4. Multiply drops in Step 3 by drop equivalence (Step 1). Record as 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).

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

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.

Swirl to mix. Sample will turn

pH

1. Fill large tube to 44 mL mark with sample water.
2. Add 5 drops R-0004. Cap and invert to mix.
3. Match color. Record as pH units. If color is between two values, pH is average of the two. To LOWER pH: See Acid Demand. To RAISE pH: See Base Demand.

Acid Demand

1. Use treated sample from pH test.
2. Add R-0005 dropwise. After each drop, count, cap and invert to mix, and compare color until desired pH is matched. See Treatment Tables in Guidebook (#2004B) to continue.

Base Demand

1. Use treated sample from pH test.
2. Add R-0006 dropwise. After each drop, count, cap and invert to mix, and compare color until desired pH is matched. See Treatment Tables in Guidebook (#2004B) to continue.

Total Alkalinity (TA)

1. Fill large tube to 25 mL mark with sample water.*
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 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)

1. Fill large tube to 25 mL mark with sample water.*
2. Add 20 drops R-0010. 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 ppm calcium hardness as calcium carbonate ($CaCO_3$).

When high CH is anticipated: Use 10 mL sample, 10 drops R-0010, 3 drops R-0011L, and multiply drops in Step 4 by 25.

Cyanuric Acid (CYA)

1. Fill bottle (#9191) to 7 mL mark with sample water.
2. Add R-0013 to 14 mL mark. Cap and mix for 30 seconds.
3. Transfer cloudy solution to small 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 ppm cyanuric acid (CYA).

Sodium Chloride (Salt)

For 1 drop = 200 ppm

1. Fill tube (#9198) to 10 mL mark with sample water.
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. First change from yellow to a milky salmon (brick red) is the endpoint.

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

See reverse.

pH

1. Fill large tube to 44 mL mark with sample water.
2. Add 5 drops R-0004. Cap and invert to mix.
3. Match color. Record as pH units. If color is between two values, pH is average of the two. To LOWER pH: See Acid Demand. To RAISE pH: See Base Demand.

Acid Demand

1. Use treated sample from pH test.
2. Add R-0005 dropwise. After each drop, count, cap and invert to mix, and compare color until desired pH is matched. See Treatment Tables in Guidebook (#2004B) to continue.

Base Demand *for K-2000, K-2005, K-2005-SALT, K-2015, K-2100, K-2105 and K-2115*

1. Use treated sample from pH test.
2. Add R-0006 dropwise. After each drop, count, cap and invert to mix, and compare color until desired pH is matched. See Treatment Tables in Guidebook (#2004B) to continue.

Calcium Hardness (CH) *for K-2005, K-2005-SALT, K-2006, K-2006-SALT and K-2105*

1. Fill to 25 mL mark with sample water.*
2. Add 20 drops R-0010. 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 ppm calcium hardness as calcium carbonate ($CaCO_3$).

When high CH is anticipated: Use 10 mL sample, 10 drops R-0010, 3 drops R-0011L, and multiply drops in Step 4 by 25.

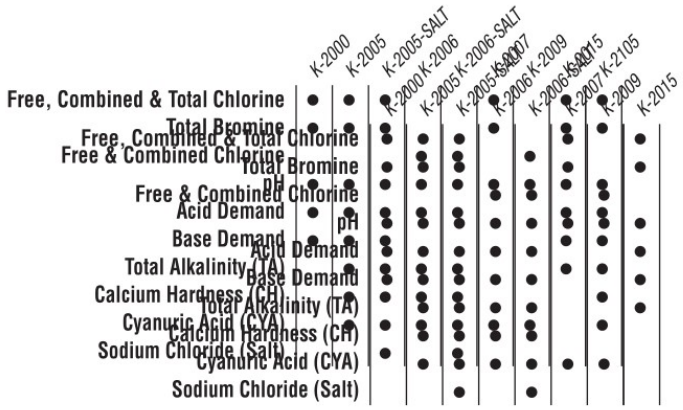
Sodium Chloride (Salt) *for K-2005-SALT and K-2006-SALT*

For 1 drop = 200 ppm

1. Fill tube (#9198) to 10 mL mark with sample water.
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. First change from yellow to a milky salmon (brick red) is the endpoint.

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



Ideal Ranges:

Free Chlorine	2–4 ppm (pools or spas)
Combined Chlorine	0 ppm (pools or spas)
Total Chlorine	2–4 ppm (pools or spas)
Total Bromine	2–3 ppm (residential pools), 3–4 ppm (public pools) 2–4 ppm (residential spas), 4–6 ppm (public spas)
pH	7.4–7.6 (pools or spas)
Total Alkalinity	80–120 ppm (pools or spas)
Calcium Hardness	200–400 ppm (gunite pools) 150–250 ppm (spas, aboveground pools, vinyl liner pools and fiberglass shells)
Cyanuric Acid	30–50 ppm (outdoor pools or spas)
Sodium Chloride (Salt)	See manufacturer's recommendations

NSF
Certified to NSF/ANSI Standard 50

Range Limitations:
0–10 ppm Free, Combined & Total Chlorine (DPD)
0–20 ppm Free & Combined Chlorine (FAS-DPD)
0–20 ppm Total Bromine
7.0–8.0 pH
30–100 ppm CYA

Contact:
Please visit www.taylortechnologies.com for replacement parts and additional information.

NSF 50 Classification:
(DPD) Free Chlorine – L3 (Pool), L3 (Spa/Hot Tub)
(DPD) Combined Chlorine – L3 (Pool), L3 (Spa/Hot Tub)
(FAS-DPD) Free Chlorine, 1 drop = 0.2 ppm – L2 (Pool), L1 (Spa/Hot Tub)
(FAS-DPD) Combined Chlorine, 1 drop = 0.2 ppm – L2 (Pool), L1 (Spa/Hot Tub)
(FAS-DPD) Free Chlorine, 1 drop = 0.5 ppm – L2 (Pool), L1 (Spa/Hot Tub)
(FAS-DPD) Combined Chlorine, 1 drop = 0.5 ppm – L3 (Pool), L2 (Spa/Hot Tub)
Total Bromine – L3 (Pool), L3 (Spa/Hot Tub)
pH – L3 (Pool), L3 (Spa/Hot Tub)
Cyanuric Acid – L3 (Pool), L3 (Spa/Hot Tub)

Contents

Documents / Resources

	NSF K-2009 Pool Inspector Test Kit [pdf] Instruction Manual K-2009, 2004B, 5136, K-2009 Pool Inspector Test Kit, K-2009, Pool Inspector Test Kit, Inspector Test Kit, Test Kit

References

- User Manual