

COLOR COMPARISON TEST
SILICA (0-50, 0-250, or 0-500 ppm)

COMPONENTS:

SLIDE COMPARATOR: 9264
RANGE: 0-50 ppm

REAGENTS:

R-1305Q-II Silica Reagent #4, 50 g
R-1305U-C Silica Reagent #3*, 2 oz
R-1306T-C Silica Reagent #1**, 2 oz
R-1306U-C Silica Reagent #2, 2 oz

APPARATUS:

1 x 4005 Cylinder, Graduated (50 mL w/ 1.0 mL div), glass (or #4007, 100 mL)
5 x 4023 Test Tube, Calibrated (5 mL), glass
1 x 4026 Dipper Spoon, 2 g, plastic, white
3 x 4030 Pipet, Calibrated (0.5 & 1.0 mL) w/ cap, plastic
1 x 5320 Instruction
1 x 6002 Brush, Test Cell
1 x 6021 Stopper, Test Tube (5 mL, calibrated), rubber
1 x 9190 Base, Slide Comparator (for test tubes)
1 x 9198 Sample Tube, Graduated (25 mL) w/ cap, plastic

OR

3 x 3267 Cap, Test Cell (5 mL), plastic
1 x 4005 Cylinder, Graduated (50 mL w/ 1.0 mL div), glass (or #4007, 100 mL)
3 x 4025 Test Cell, Calibrated (5 mL), plastic
1 x 4026 Dipper Spoon, 2 g, plastic, white
3 x 4030 Pipet, Calibrated (0.5 & 1.0 mL) w/ cap, plastic
1 x 5320 Instruction
1 x 6002 Brush, Test Cell
1 x 9189 Base, Slide Comparator, Enslow (for test cells)
1 x 9198 Sample Tube, Graduated (25 mL) w/ cap, plastic

Instr. #5320

TO ORDER REPLACEMENT PARTS AND REAGENTS CALL TOLL-FREE
800-TEST KIT (800-837-8548).

PROCEDURE:

CAREFULLY READ AND FOLLOW PRECAUTIONS ON REAGENT LABELS.
KEEP REAGENTS AWAY FROM CHILDREN.

Silica Test

For 0-50 ppm Silica

1. Rinse and fill two 5 mL test tubes (test cells) to 5 mL mark with water to be tested.
2. Wipe dry and place in two holes (slots) adjacent to center hole (slot) of comparator base (#9190 or #9189). Test cells (#4025) must be placed WITH FROSTED SIDE FACING OPERATOR.
3. Rinse and fill 25 mL sample tube (#9198) to 25 mL mark with water to be tested.
4. Using a 1.0 mL pipet (#4030), add 1.0 mL R-1306T Silica Reagent #1. Swirl to mix.
5. Using a separate 1.0 mL pipet, add 1.0 mL R-1306U Silica Reagent #2. Swirl to mix. WAIT 5 MINUTES.
6. Using a separate 1.0 mL pipet, add 1.0 mL R-1305U Silica Reagent #3. Swirl to mix.
7. Using 2 g dipper spoon (#4026), add 1 level dipper R-1305Q Silica Reagent #4. Swirl until dissolved. Transfer to third test tube (test cell) to 5 mL mark.
8. Wipe dry and place in center hole (slot) of comparator base. WAIT 1 MINUTE.
9. Place Slide on comparator base. Match color in center test tube (test cell) with a color standard. The Slide is in proper alignment for a color match when a white line on the Slide is directly above the white line on the comparator base. Record as parts per million (ppm) silica (SiO₂).

(OVER)

For 0-250 ppm Silica

1. Rinse and fill graduated cylinder (#4005) to 10 mL mark with water to be tested.
2. Dilute to 50 mL mark with distilled, deionized, or silica-free water. Pour back and forth into 25 mL sample tube (#9198) to mix. Transfer to sample tube to 25 mL mark.
3. Rinse and fill two 5 mL test tubes (test cells) to 5 mL mark with remaining diluted sample.
4. Wipe dry and place in two holes (slots) adjacent to center hole (slot) of comparator base (#9190 or #9189). Test cells (#4025) must be placed WITH FROSTED SIDE FACING OPERATOR.
5. Using a 1.0 mL pipet (#4030), add 1.0 mL R-1306T Silica Reagent #1. Swirl to mix.
6. Using a separate 1.0 mL pipet, add 1.0 mL R-1306U Silica Reagent #2. Swirl to mix. WAIT 5 MINUTES.
7. Using a separate 1.0 mL pipet, add 1 mL R-1305U Silica Reagent #3. Swirl to mix.
8. Using 2 g dipper spoon (#4026), add 1 level dipper R-1305Q Silica Reagent #4. Swirl until dissolved. Transfer to third test tube (test cell) to 5 mL mark.
9. Wipe dry and place in center hole (slot) of comparator base. WAIT 1 MINUTE.
10. Place Slide on comparator base. Match color in center test tube (test cell) with a color standard. The Slide is in proper alignment for a color match when a white line on the Slide is directly above the white line on the comparator base. Multiply reading by 5. Record as parts per million (ppm) silica (SiO_2).

For 0-500 ppm Silica

1. Rinse and fill graduated cylinder (#4005) to 5 mL mark with water to be tested.
2. Dilute to 50 mL mark with distilled, deionized, or silica-free water. Pour back and forth into 25 mL sample tube (#9198) to mix. Transfer to sample tube to 25 mL mark.
3. Rinse and fill two 5 mL test tubes (test cells) to 5 mL mark with remaining diluted sample.

4. Wipe dry and place in two holes (slots) adjacent to center hole (slot) of comparator base (#9190 or #9189). Test cells (#4025) must be placed WITH FROSTED SIDE FACING OPERATOR.
5. Using a 1.0 mL pipet (#4030), add 1.0 mL R-1306T Silica Reagent #1. Swirl to mix.
6. Using a separate 1.0 mL pipet, add 1.0 mL R-1306U Silica Reagent #2. Swirl to mix. WAIT 5 MINUTES.
7. Using a separate 1.0 mL pipet, add 1 mL R-1305U Silica Reagent #3. Swirl to mix.
8. Using 2 g dipper spoon (#4026), add 1 level dipper R-1305Q Silica Reagent #4. Swirl until dissolved. Transfer to third test tube (test cell) to 5 mL mark.
9. Wipe dry and place in center hole (slot) of comparator base. WAIT 1 MINUTE.
10. Place Slide on comparator base. Match color in center test tube (slot) with a color standard. The Slide is in proper alignment for a color match when a white line on the Slide is directly above the white line on the comparator base. Multiply reading by 10. Record as parts per million (ppm) silica (SiO_2).

*WARNING: Silica Reagent #3 (R-1305U) contains 5-15% w/w oxalic acid, a poison.

**WARNING: Silica Reagent #1 (R-1306T) contains 10-20% w/w hydrochloric acid, a corrosive acid.



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