LAUNDRY CONTROL KIT

Code 3095-02

QUANTITY	CONTENTS	CODE
60 mL	*Hypochlorite Indicator	*6434-H
60 mL	Hypochlorite Reagent C	7941PS-H
30 mL	Nitro Green Indicator	2301-G
15 mL	*Hardness Reagent #5	*4483-E
15 mL	*Hardness Reagent #6	*4485-E
60 mL	Hardness Reagent #7	4487PS-H
15 mL	*Phenolphthalein Indicator, 1%	*2246-E
15 mL	Methyl Orange Indicator	2230-E
60 mL	*Hydrochloric Acid, 1.0 N	*6130PS-H
60 mL	*Hydrochloric Acid, 0.1 N	*6323-H
60 mL	Sour Indicator	6432-H
1	Test Tube, hardness, w/cap	4488
2	Test Tubes, 5-10-12.9-15-20-25 mL, glass, w/cap	0608
3	Test Tubes, 5.0 mL, glass, w/cap	0230
1	Test Tube, round bottom, glass	0240
1	Nitro Green Octa-Slide 2 Bar	2197-01
1	Octa-Slide 2 Viewer	1011
2	Test Tubes, 2.5-5-10 mL, plastic, w/caps	0106
1	Pipet, glass, 20 dr/mL	0342
4	Pipets, plain, plastic, w/caps	0392
1	Pipet Assembly, 0.5 mL, plastic, w/cap	0369

To order individual reagents or test kit components, use the specified code number.

*Reagent is a potential health hazard. **READ SDS:** lamotte.com

Emergency information:
Chem-Tel USA 1-800-255-3924
Int'l, call collect, 813-248-0585

Warning! This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

USE OF THE OCTA-SLIDE 2 VIEWER

PROCEDURE

ALKALINE (HIGH) pH

1. Insert the Nitro Green Octa-Slide 2 Bar (2197-01) into the Octa-Slide 2 Viewer (1101).
2. Fill a test tube (0106) to the 10.0 mL line with the sample water.
3. Add 8 drops of Nitro Green Indicator (2301). Cap and mix.
4. Insert the test tube into the Octa-Slide 2 Viewer.
5. Hold the Viewer so that non-direct light enters through the back. Match the sample color to a color standard. Record as pH.

SOUR (LOW) pH

1. Fill a test tube (0230) to the 5.0 mL line with the sample water.
2. Add 8 drops of the Sour Indicator (6432). Cap and mix.
3. Match sample color to a color standard. Compare with the table below. Record the pH.

Color	pH
Red Orange	1.5
Orange	2.0
Yellow	3.0
Yellow	4.0
Green Yellow	4.5
Yellow Green	5.0
Green	6.0
Gray Green	7.0
Blue	8.0
Bright Violet	8.5

ALKALINITY, BREAK, & SUDSING

1. Fill a test tube (0608) to the 25 mL line with the sample water.
2. Add 3 drops of *Phenolphthalein Indicator, 1% (2246). If a red color develops, active alkali is present. Proceed to step 3. If no red color appears, skip step 3 and go to step 4.
3. Use a clean pipet with cap (0392) to add *Hydrochloric Acid, 1.0 N (6130PS) to the sample, one drop at a time, while counting the drops. Continue addition, swirling to mix after each drop, until the red color disappears.
4. Number of Drops x 100 = ppm Active Alkalinity as ppm $CaCO_3$
5. To the same sample, add 3 drops of Methyl Orange Indicator (2230). Mix.
6. Again add *Hydrochloric Acid, 1.0 N (6130PS), one drop at a time, until the yellow color changes to red orange.
7. Number of Drops x 100 = ppm Inactive Alkalinity
8. To calculate the Total Alkalinity:
9. Total Number of Drops x 100 =Total Alkalinity in ppm $CaCO_3$

ALKALINITY, RINSE

1. This test should be run on the supply tap water first and then on the rinse water to compare the two Alkalinity readings. If the rinse water is within 30 ppm of the tap water, the rinsing is sufficient. If the difference is greater than 30 ppm additional rinsing is needed.
2. Fill a test tube (0608) to the 25 mL line with the sample water.
3. Add 3 drops of *Phenolphthalein Indicator (2246). If a red color develops, active alkali is present. Proceed to step 4. If no red color appears, skip step 4 and go to step 5.
4. Use a clean pipet with cap (0392) to add *Hydrochloric Acid, 0.1 N (6323) to the sample, one drop at a time, counting the drops. Continue addition, swirling to mix after each drop, until the red color disappears.

Number of Drops x 10 = ppm Active Alkalinity

5. To the same sample, add 3 drops of *Methyl Orange Indicator (2230). Mix.
6. Again add *Hydrochloric Acid, 0.1 N (6323), one drop at a time until the yellow color changes to red orange.

Number of Drops x 10 = ppm Inactive Alkalinity

7. To calculate Total Alkalinity:

Total Number of Drops x 10 = Total Alkalinity in ppm $CaCO_3$

HARDNESS

Test results are expressed as Total Hardness in parts per million (ppm) or grains per gallon (gpg) Calcium Carbonate ($CaCO_3$).

Results in ppm	Fill tube to upper line
Results in gpg	Fill tube to middle line
Hardness level above 200 ppm	Fill tube to lower line
NOTE: 1 gpg = 17.1 ppm	

1. Fill the tube (4488) to the desired line (see above) with the sample water.
2. Add five drops of *Hardness Reagent #5 (4483). Cap and mix.
3. Add five drops of *Hardness Reagent #6 (4485). Cap and mix. Solution will turn red.
4. Use the pipet (0392) to add Hardness Reagent #7 (4487PS), one drop at a time, swirling the tube between each addition. Hold the pipet vertically to form uniformly-sized drops. Count each drop added. Continue adding drops until the red color changes to a clear blue.
5. To determine the Total Hardness test result, multiply the number of drops added in Step 4 by:

10 ppm $CaCO_3$	**Test tube filled to upper line**
1 gpg $CaCO_3$	**Test tube filled to middle line**
20 ppm $CaCO_3$	**Test tube filled to lower line**

BLEACH

1. Use the glass pipet (0342) to add exactly 5 drops of the water sample to one of the small test tubes (0230).
2. Use the 0.5 mL pipet with screw cap (0369) to add 0.5 mL of *Hypochlorite Indicator (6434). Solution will turn brown.
3. Use a clean pipet (0392) to add Hypochlorite Reagent C (7941PS), one drop at a time, while mixing and counting the drops. Continue until the brown or yellow color turns colorless. Hold pipet vertically.

Number of Drops x 0.1 = % Available Chlorine Bleach.

TURBIDITY

1. This test measures the progressive amount of soil removed in each operation.
2. Fill one of the large, round bottom test tubes (0240) with the water sample. Allow to stand until the bubbles and suds have disappeared. Hold the tube in front of these instructions. If the words can be read through the sample, then the solution is free of soil. If the words cannot be read, additional rinsing operations are required.

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