PHOSPHONATE KIT

DIRECT READING TITRATOR, 0-20 PPM

CODE 7634-DR-01

QUANTITY	CONTENTS	CODE
15 mL	*Hydrochloric Acid, 1.0N	*6130-E
30 mL	Meta Cresol Purple Indicator	2202-G
15 mL	Sodium Thiosulfate, 0.1N	6155-E
10 g	Xylenol Orange Powder	6165-D
60 mL	Thorium Nitrate Solution	6158PS-H
1	Test Tube, 5 &10 mL, glass	0898
1	Test Tube, 5-10-12.9-15-20-25 mL, glass, w/cap	0608
1	Special Perforated Cap	0601
1	Spoon, 0.1 g	0699
1	Direct Reading Titrator, 0-20 Range	0378
1	Low-High pH Color Chart	7712-CC

*WARNING: Reagents marked with an * are considered to be potential health hazards. To view or print a Safety Data Sheet (SDS) for these reagents go to www.lamotte.com. Search the four digit reagent code number listed on the reagent label, in the contents list or in the test procedures. Omit any letter that follows or precedes the four digit code number. For example, if the code is 4450WT-H, search 4450. To obtain a printed copy, contact LaMotte by e-mail, phone or fax.

Emergency information for all LaMotte reagents is available from Chem-Tel: (US, 1-800-255-3924) (International, call collect, 813-248-0585)

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

NOTE: Carefully read the instruction manual for the Direct Reading Titrator before performing the titration procedure described below. The titrator is calibrated in terms of parts per million Phosphonate, and each minor division on the titrator scale equals 0.4 ppm.

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.

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pH ADJUSTMENT PROCEDURE

Prior to performing the actual test titration, the pH of the test sample must be adjusted to approximately pH 2.6. The pH adjustment is made by adding *Hydrochloric Acid to the test sample. The amount of *Hydrochloric Acid to be added is determined as follows:

1. Fill the test tube (0898) to the 10 mL line with the sample water.
2. Add 14 drops of Meta Cresol Purple Indicator (2202). A color somewhere between yellow and purple will develop, depending on the pH of the sample.
3. Add *Hydrochloric Acid (6130), one drop at a time, mixing between drops, counting the number of drops, and continually comparing the color of the sample against the two pH color standards in the Low-High pH Color Chart (7712-CC). When the sample color is between these two standard colors, the sample has been adjusted to the proper pH. The sample color must not be too yellow or too red.
4. Record the number of drops of *Hydrochloric Acid used in Step 3. The same number of drops will be added to the sample in Step 3 of the Test Procedure.
5. Discard this sample.

PROCEDURE

1. Fill the test tube (0608) to the 10 mL line with sample water.
2. Add 1 drop of Sodium Thiosulfate (6155).
3. Add the exact number of drops of *Hydrochloric Acid (6130) recorded in Step 4 of the pH Adjustment Procedure.
4. Use the 0.1 g measuring spoon (0699) to add one level measure of Xylenol Orange Powder (6165). Swirl to dissolve. The solution will turn yellow.
5. Replace the regular cap on the bottle of Thorium Nitrate (6158PS) with the special perforated dispenser cap (0601). Fill the Direct Reading Titrator (0378) with this reagent. Insert the titrator into the center hole of the titration tube cap.
6. While gently swirling the titration tube, slowly press the plunger to titrate until the solution changes from yellow to pink.
7. Read the test result directly from the scale where the large ring on the titrator meets the titrator barrel. Record the result as ppm Phosphonate.
8. Replace the regular cap on the Thorium Nitrate bottle for storage.
9. For most accurate results, a blank test should be run on a sample of the water containing no Phosphonate. Any result from this blank test should be subtracted.
10. This test has been calibrated for Dequest 2006. When a different compound is to be tested, the amount of Thorium Nitrate added should be multiplied by a conversion factor to determine ppm Phosphonate.

Phosphonates	Compound Name	Factor
Dequest 2000	AMP(NTP)	0.8
Dequest 2006	NaAMP	1.0
Dequest 2010	HEDP(A)	0.6
Belcor 575		0.5

11. If any other Phosphonate compound is used, the factor must be determined experimentally using standard solutions of that compound.