

PHOSPHATE - PHOSPHONATE

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If a treatment uses a blend of phosphonates, the equivalence must be determined by running standards of the treatment.



INDIVIDUAL TEST KITS

| ORDER CODE MODEL | TEST SYSTEM (DETAILED ON PAGES 4-7) | RANGE/SENSITIVITY | # OF TESTS (# REAGENTS) | SHIPPING CODE (WEIGHT/LBS) |
|---|--|---|----------------------------|-------------------------------|
| PHOSPHATE There are 3 colorimetric test methods. In two, a phosphomolybdate complex is reduced by stannous chloride or ascorbic acid to produce a blue color. In a third, phosphate forms a yellow complex with vanadomolybdate. | | | | |
| 3679-01 DC1200-PLR | Ascorbic Acid Colorimeter | 0-3.0 ppm/0.07 ppm PO ₄ ³⁻ | 100 (2) | R2 (7) |
| 3121-01 PAL | Ascorbic Acid Octet Comparator with Axial Reader | 0, 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0 ppm PO ₄ ³⁻ | 50 (2) | R1 (1) |
| 3114-01 PAA | Ascorbic Acid Octet Comparator | 0.5, 1, 2, 3, 4, 6, 8, 10 ppm and 5, 10, 20, 30, 40, 60, 80, 100 ppm PO ₄ ³⁻ | 50 (2) | R1 (1) |
| 7416-01 NVM | Stannous Chloride Octet Comparator with Axial Reader | 0.05, 0.1, 0.2, 0.3, 0.4, 0.6, 0.8, 1.0 ppm PO ₄ ³⁻ | 50 (2) | R1 (1) |
| 3320-01 SL-VM-12 | Stannous Chloride Octa-Slide | Low: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm PO ₄ ³⁻ High: 10, 20, 30, 40, 50, 60, 80, 100 ppm PO ₄ ³⁻ | 50 (2) | R1 (1) |
| 4408 VM-12 | Stannous Chloride Octet Comparator | Low: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm PO ₄ ³⁻ High: 10, 20, 30, 40, 50, 60, 80, 100 ppm PO ₄ ³⁻ | 50 (2) | HF (1) |
| 7068 P-POR | Stannous Chloride Octet Comparator with BiColor Reader | Low: 1.0, 2.0, 3.0, 4.0, 5.0, 6.0, 8.0, 10.0 ppm PO ₄ ³⁻ High: 10, 20, 30, 40, 50, 60, 80, 100 ppm PO ₄ ³⁻ | 50 (2) | HF (1) |
| 4401-01 VM-1 | Vanadate Molybdate Octet Comparator | 10, 20, 30, 40, 50, 60, 70, 80 ppm PO ₄ ³⁻ | 50 (1) | R1 (1) |

PHOSPHATE (TOTAL) Polyphosphates (acid-hydrolyzable or condensed) and phosphonates (organic phosphates) are reverted using the reagents and apparatus in the **7884 Auxiliary Phosphate kit**. The polyphosphates require boiling or microwaving with acid and subsequent neutralization; the phosphonates require the same, but with the addition of an oxidizer in the boiling/microwaving step. Once reverted to orthophosphate, any of the tests in the orthophosphate section above may be used for analysis. See page 14 for Total Phosphorus Digestion Tube Tests.

PHOSPHONATE The Chromazurol S method may be used for Dequest, Bayhibit, Belcor 575 and Belsperse 161 phosphonates. The indicator changes from yellow to pink at the pH ideal for the reaction, then thorium nitrate is added until the solution turns purple. The Xylenol Orange method titrates all Dequest products and Belcor 575. The pH is adjusted to 2.5-3.0, then thorium nitrate is added until the color changes from yellow to red. The 4068 uses a masked xylenol orange indicator, which produces a green to blue endpoint. It also employs a tablet to adjust the pH to the required 2.5-3.0. An additional liquid acid is included for very high alkalinity samples. It also includes a fluoride inhibitor reagent.

The 7611 sulfate interference suppressor kit uses barium precipitation and filtration to eliminate sulfate from the phosphonate test.

| | | | | |
|--------------------|--------------------------------|---|------------------|--------|
| 7625-DR OPCA-DR | CAS Direct Reading Titrator | 0-20 ppm/0.4 ppm HEDP/PBTC | 50 at 20 ppm (5) | R1 (1) |
| 7625 OPCA-DC | CAS Dropper Pipet | 1 drop = 1.25 ppm HEDP 1 drop = 1.4 ppm PBTC | 50 at 20 ppm (5) | R1 (1) |

Ship Codes: (NH) Non-Hazardous Material - No Fees • (R1) Small Qty. Hazardous Material - No Fees • (R2 & R3) Hazardous Material - Air Fees Only • (HF) Hazardous Material - Air & Ground Fees
 • (NPDWR) EPA Accepted • †(NPDÉS) EPA Accepted • Direct Reading Titrators have a specific range, but may be refilled to test higher concentrations.

Individual Test Kits

Phosphonate - Salinity



Many wood treating companies use QAC kits to monitor their products because the wood preservatives react similarly to QAC.

| Order Code Model | Test System (Detailed On Pages 6-7) | Range/Sensitivity | # of Tests (# Reagents) | Shipping Code (Weight/Lbs) |
|---|-------------------------------------|--|-------------------------|----------------------------|
| PHOSPHONATE (Continued) | | | | |
| 7530-DR FI-DR | XO Direct Reading Titrator | 0–20 ppm/0.4 ppm NaAMP | 50 at 20 ppm (5) | R1 (2) |
| 7530-WT | XO Dropper Bottle | 1 drop = 1 ppm NaAMP | 50 at 20 ppm (5) | R1 (2) |
| 4068 | Masked XO Direct Reading Titrator | 0-20 ppm/0.4 ppm HEDP | 50 at 20 ppm (4) | R1 (2) |
| POLYPHOSPHATES A colorimetric method is available for waters where metal interference is unlikely. An excess of iron is added to the solution containing polyphosphate. The iron is complexed and the remaining iron is determined. The polyphosphate concentration is derived from the iron concentration. | | | | |
| 7340-R PPK-R | Octet Comparator with Axial Reader | 0, 3, 6, 9, 12, 15 ppm Polyphosphate | 50 (3) | R2 (1) |
| POLYQUAT The test is based on the reaction of the cationic polyquat with an anionic polyelectrolyte using Toluidine Blue O as the indicator. The color change is blue to purple. | | | | |
| 7056 | Dropper Bottle | 1 drop = 1 ppm Polyquat | 100+ (5) | R1 (1) |
| POTASSIUM Sodium tetraphenylboron reacts with potassium to form a white precipitate. The turbidity of the solution is proportional to potassium concentration which is measured in a calibrated tube. | | | | |
| 3138 KIW | Turbidity Reading Tube | 6, 8, 10, 20, 30, 40, 50 ppm K ⁺ | 100 (2) | R1 (1) |
| QAC Two methods are available. A masked bromphenol blue indicator is added to the sample and turns green. Sodium tetraphenylboron is added to complex the QAC and the color changes to red. This method is best suited to higher QAC concentrations. A polyelectrolytic titration, like the one used for polyquat, is used for low to high concentrations. | | | | |
| 3043-DR QT-DR | BPB Direct Reading Titrator | 0–500 ppm/10 ppm Alkyl dimethyl benzyl ammonium chloride | 50 at 500 ppm (2) | NH (1) |
| 3042 | BPB Direct Reading Titrator | 0-1,000 ppm/20 ppm 0-5,000 ppm/100 ppm with dilution | 50 at 1,000 ppm (2) | NH (1) |
| 7057 | Polyelectrolytic Dropper Bottle | 1 drop = 2, 5, or 10 ppm Alkyl dimethyl benzyl ammonium chloride | 100+ (5) | R1 (2) |
| 2951 | Test Papers | 50, 100, 200, 400 ppm | 100 | NH (1) |
| SALINITY Salinity is based on the concentration of chloride. An argentometric titration with silver nitrate is used to determine the chloride concentration. | | | | |
| 7459-01 POL-H | Direct Reading Titrator | 0–40 ppt/0.4 ppt Salinity | 50 at 20 ppt (2) | R1 (1) |