

# Richard hourigan, inc.

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## Instructions

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### Instruction Number: 5052

DROP TEST  
PHOSPHONATE EQUIVALENCE (PPM)  
ATMP, HEDP, PBTC (0.8); Na5ATMP (1.0); HPA (0.6)

#### COMPONENTS:

1 x 5052	Instruction
1 x 6051	Indicator Strips, pH, 2.5-4.5
1 x 9198P	Sample Tube, Graduated, 25 mL, plastic w/cap and purple dot
1 x R-0627H-4-C	Hydrochloric Acid .25N, 2 oz, DB
1 x R-0697-C	Thiosulfate N/10, 2 oz, DB
1 x R-0800-I	CAS Indicator Powder, 10 g
1 x R-0803-C	Phosphonate Titrating Solution, 2 oz, DB

TO ORDER REPLACEMENT PARTS AND REAGENTS CALL TOLL-FREE  
877-7WATER6 (877-792-8376) or [email us](mailto:email_us) with your requirements.

#### PROCEDURE:

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

NOTE: Positive interferences:  
Fluoride and iron at all levels;  
Orthophosphate >5 ppm PO<sub>4</sub>; Polyphosphate >1 ppm PO<sub>4</sub>

NOTE: Run a blank with fluoride-free water. Normal blank requires about 2 drops of R-0803 Phosphonate Titrating Solution to reach endpoint.

1. Rinse and fill 25 mL sample tube (#9198P) to 25 mL mark with water to be tested.
2. Add:
  - 1 drop R-0697 Thiosulfate N/10
  - 1 level dipper R-0800 CAS Indicator PowderSwirl to mix.
3. Adjust pH between 3.6 and 3.9: Place 1 indicator strip in sample. Add 1 drop R-0627H-4 Hydrochloric Acid .25N. Swirl sample 15 seconds to mix. Remove indicator strip and match color with printed color standards on indicator strip container. Read printed pH value. If necessary, repeat above procedure using same indicator strip until a pH between 3.6 and 3.9 is obtained. Sample

should be peach (pink-orange).

4. Add R-0803 Phosphonate Titrating Solution dropwise, swirling and counting after each drop, until color changes from peach to purple. Always hold bottle in vertical position.
  
5. Subtract drops of R-0803 Phosphonate Titrating Solution in blank from drops used in sample (Step 4). Multiply by appropriate conversion factor (see CONVERSION FACTORS). Record as parts per million (ppm) phosphonate.

CONVERSION FACTORS:

To express phosphonate as:	Multiply drops by:
Aminotri(methylenephosphonic acid) (ATMP)	0.8
Aminotri(methylenephosphonic acid), pentasodium salt (Na5ATMP)	1.0
1-Hydroxyethylidene-1, 1-diphosphonic acid (HEDP)	0.8
Hydroxyphosphonoacetic Acid (HPA)	0.6
Phosphonobutane tricarboxylic acid (PBTC)	0.8

03/09