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Doc No : PDAE301**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE301**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE301

PARAMETER: PHOSPHATE

RANGE: 0-40 mg/l as PO₄**2 METHOD**

In a dilute orthophosphate solution, ammonium molybdate react under acid condition to form a heteropoly acid, molybdophosphoric acid. In the presence of vanadium, yellow vanadomolybdophosphoric acid is form. The intensity of the yellow colour is proportional to phosphate concentration.

3 APPLICATION

Drinking Water, Mineral Water, Well Water, Swimming Pool Water, Surface and Ground Water, Aquaculture, Boiler Water, Process Water, Industrial Wastewater, Effluent Water, Cooling System Water, Chiller Water etc

4 INTERFERENCE

Positive interference is caused by Silica and Arsenate, only if the sample is heated. Negative interference is caused by Arsenate, Fluoride, Thorium, Bismuth, Sulphide, Thiosulphate, Thiocyanate, or excess molybdate. Blue colour is caused by Ferrous ion but this does not affect result, If ferrous ion concentration is less than 100 mg/l. Chloride ion interferes at 75 mg/l.

5 METHOD CONTROL

To Check test reagents,

To prepare 500 ppm Phosphate standard solution- Take 0.747gms of Na₂HPO₄ in a 1000ml standard volumetric flask, Add demineralised Water mix well, dilute it with demineralised water up to 1000 ml mark, stir well. Dilute this standard solution with distilled water to 10 mg/l PO₄ and analyse as described in procedure card.

6 REAGENTS AND ACCESSORIES

Reagents: OP1(3Nos), OP2(1Nos)

Accessories: 10 ml Test Jar(2Nos), Procedure Label(1Nos), spoon, 5ml syringe(1No), colour chart

7 STORAGE

The test reagents are stable up to the date stated on the pack when stored closed at ambient temperature.

8 REFERENCE

APHA Standard Methods, 22nd ed., Method 4500-P C – Standard Methods for Chemical Analysis of Water and Waste water

9 DIRECTION FOR USE

1. Take 2.5 ml of cooled, filtered and prepared* sample using syringe in the 10 ml test jar provided.

2. Add equal volume of OP1 (2.5 ml)

3. Dilute to 10 ml mark with DM / Clear colourless phosphate free water.

4. Mix the contents well. Keep for 5 minutes.

5. Read the ppm Phosphate as follows:

a) Place the test jar on the inner circle of the colour comparison chart.

b) View from the top of the test jar to compare the sample colour and the colour around.

c) Read the ppm Phosphate as PO₄ after arriving at the correct match.

* Preparation of Sample

1. Sample pH should be preferably neutral. Neutralize the sample to phenolphthalein end point before testing by using dilute acid or alkali.

2. In case of sample having colour tint; take 50 ml of this sample, add 1-2 gram of OP2 and boil till contents turn colourless. Cool and make up to 50 ml using distilled water. Filter through No. 42 paper and proceed for estimation of phosphate. If the sample cannot be decolorized, do the following:

a) Take the original water sample in the comparator test jar and read the ppm Phosphate as per the procedure in No. 6 above.

b) This ppm reading has to be subtracted from the reading of the tested sample.

c) Determine chloride in the sample. If necessary, dilute the sample to maintain the chloride to less than 75 ppm Chloride.

Note: - This test determines Orthophosphate in the sample.