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Doc No : TDSAE311**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE311**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE311

PARAMETER: Phosphate

RANGE: 0.1 TO 10.0 ppm as PO₄**2 METHOD**

In an acidic solution, ortho-phosphate reacts with ammonium molybdate to form molybdophosphoric acid, which is then reduced by stannous chloride to the intensely colored molybdenum blue. The resulting blue color is directly proportional to the phosphate concentration. Results are expressed in ppm (mg/L)

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. Chlorine interferes at 1 ppm chlorine. Addition of sodium thiosulfate to the sample to destroy chlorine helps to minimize the interference. Hydrogen peroxide prevents the blue color formation in the presence of phosphate. Peroxide also causes the formation of a yellow color whether phosphate is present or not. Condensed phosphates (pyro-, meta-, and other polyphosphates) and organically bound phosphates do not respond to this test. Unexpectedly high results may reflect sample contamination from labware. If contamination is suspected, labware can be rinsed with dilute sulfuric acid followed by deionized or distilled water

5 METHOD CONTROL

To Check test reagents,

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: LPR1 (1No), LPR2 (1 No), OP2 (1 No)

Accessories: 10 ml test jar (2Nos), Procedure Label(1Nos), Colour chart, Spoon.

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 D -1999

9 DIRECTION FOR USE

1. Take 10 ml of cooled, filtered and prepared * sample in the jar.

2. Add 5 drops of LPR 1. Mix the contents.

3. Add 3 drops of LPR 2. Mix the contents and keep for ten minutes.

4. Read the ppm Phosphate as follows:

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

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

c) Read the ppm PHOSPHATE as PO₄ after arriving at the correct match from the colour chart.

* 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.

3) 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.