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Doc No : PDAE332**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE332**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE332

PARAMETER: SILICA (HIGH LEVEL)

RANGE: 75-200 mg/l as SiO₂**2 METHOD**

Ammonium molybdate at pH approximately 1.2 reacts with silica and any phosphate present to produce heteropoly acid. Oxalic acid is added to destroy the Molybdophosphoric acid but not the molybdosilicic acid. Even if phosphate is known to be absent, the addition of oxalic acid is highly desirable and is a mandatory step in this method. Molybdate – unreactive silica can be converted to molybdate reactive form by heating or fusing with alkali.

The intensity of the yellow colour is proportional to the concentrations of ‘molybdate – reactive ‘silica.

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

Tannin, large amount of iron, colour, Turbidity, Sulphide and phosphate interfere. Treatment with oxalic acid eliminate interference from phosphate and decrease interference from tannin.

5 METHOD CONTROL

To Check test reagents,

To prepare 1000 ppm Silica standard solution - Take 4.731 gms of Na₂SiO₃*9H₂O in a 1000 ml standard volumetric flask, Add Silica free demineralised Water mix well, dilute it with demineralised water up to 1000ml mark, stir well. Dilute this standard solution with distilled water to 0.1 mg/l SiO₂ and analyse as described in procedure card.

6 REAGENTS AND ACCESSORIES

Reagents: SL1(1Nos), SL2(1Nos), LS2(1Nos)

Accessories: 25 ml Test Jar(1Nos), Procedure Label(1Nos), Syringe, comparator tube(2 Nos.)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-SiO₂ C – Standard Methods for Chemical Analysis of Water and Waste water.

9 DIRECTION FOR USE

1. Take 2 ml prepared* sample in glass test jar by using syringe.
2. Dilute upto 25 ml with D. M. Water (silica free).
3. Add in a rapid succession 7 drops of SL 1 and 15 drops of SL 2.
4. Mix the content thoroughly. Keep for 5 minutes.
5. Then Add 15 drops of LS 2 and mix thoroughly. Wait for 5 minutes.
6. Read the ppm Silica as follows:
 - a) Place the test jar on the white 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 SILICA as SiO₂ after arriving at the correct match from the colour chart.

Preparation: The pH of water sample should be preferably neutral. Therefore neutralize highly acidic or alkaline sample to pH 6.5 to 7.5