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**Doc No :** TDSAE322**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE322**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE322

PARAMETER: Silica (Medium Level)

RANGE: 0.05 TO 5.0 ppm as SiO<sub>2</sub>**2 METHOD**

Silica reacts with ammonium molybdate under acidic conditions to produce yellow molybdosilicic acid, which is reduced by aminonaphtholsulfonic acid to form heteropoly blue. The resulting blue colour is directly proportional to the silica concentration of the sample. Results are expressed as ppm (mg/L) SiO<sub>2</sub>.

**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,

Prepare 1000 ppm Silica standard solution - Take 4.731 gms of Na<sub>2</sub>SiO<sub>3</sub>\*9H<sub>2</sub>O 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 0.4 mg/l SiO<sub>2</sub> and analyse as described in procedure card.

**6 REAGENTS AND ACCESSORIES**

Reagents: LS1 (1No), LS2 (1 No), LS3 (1 No)

Accessories: 10 ml test jar (2Nos), Procedure Label(1Nos), 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-SiO<sub>2</sub> D – Standard Methods for Chemical Analysis of Water and Waste water, BUNTING, W.E. 1944, MILTON, R.F. 1951.

**9 DIRECTION FOR USE**

- 1) Take 10 ml sample in glass test jar i.e. up to the mark of the test jar.
- 2) Add 14 drops\* of LS1. Mix well. Wait for 5 minutes.
- 3) Add 26 drops of LS 2. Mix well.
- 4) Add 6 drops of LS 3. Stopper the test jar and mix the content thoroughly. Wait for 10 minutes. This is now "S".
- 5) In another tube fill DM water (clear colourless water / filtered prepared sample) upto 10 ml mark. This is now "B".
- 6) Read the ppm SILICA as follows:
  - a) Place the Tube 'B' on blue circle and Tube 'S' on the white circle next to each other.
  - b) View from top of both the tubes and observe the circles.
  - c) Arrive at the appropriate reading by moving both the tubes together from one concentration to another. Match the correct colour.
  - d) Read the ppm SILICA as SiO<sub>2</sub> from the colour chart.