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**Doc No :** PDAE215**Date :** 01-02-2024**Type :** AQUASOL**Product Code:** AE215**PRODUCT DATA SHEET****1 INFORMATION**

CODE: AE215

PARAMETER: FREE CHLORINE

RANGE: 0.2 - 4.0 mg/l as Cl

**2 METHOD**

N, N-diethyl-p-phenylenediamine is used as an indicator in the titrimetric procedure with ferrous ammonium sulfate. The procedure is simplified to give only free and combined chlorine or total chlorine. In the absence of iodide ion, free chlorine reacts with DPD indicator to produce a red colour. Results are expressed as ppm (mg/L) Cl<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**

Many strong oxidizing agents interfere in the measurement of free chlorine in DPD method. Such interference include bromine, chlorine dioxide, iodine, permanganate, hydrogen peroxide, and ozone. However, the reduced form of these compounds like bromide, chloride, iodide, manganous ion, and oxygen, in the absence of other oxidant, do not interfere. Permanganate, Mn<sup>+7</sup>, interferes positively. Nitrogen trichloride, if present may react partially as free chlorine in the amperometric, DPD method. Cupric copper may interfere positively. Chromate in excess of 2 mg/l interferes with end point determination. Nitrite at concentrations

**5 METHOD CONTROL**

To Check test reagents,

Prepare 4 ppm chlorine standard :- Take 0.1 ml 4% sodium hypochlorite solution in 1 liter standard volumetric flask. dilute it to 1000ml with demineralised water. Determine the concentration of prepared chlorine standard by Iodometric method and analyse as described in procedure card.

**6 REAGENTS AND ACCESSORIES**

Reagents: FC1(1Nos), FC3(1Nos)

Accessories: 25ML Plastic Test Jar(1Nos), Plastic Spoon(1Nos), Procedure Label(1Nos)

**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-Cl F – Standard Methods for Chemical Analysis of Water and Waste water.

**9 DIRECTION FOR USE**

- 1.Fill the test jar with the water sample to be tested up to the 10 ml mark.
- 2.Add one spoonful (provided herewith) of FC 1.
- 3.Mix well to dissolve.
- 4.If a pink colour does not develop Chlorine is absent.
- 5.If a pink colour appears, Free Chlorine is present.
- 6.Now drop wise\* add FC 3 counting the number of drops while mixing until the pink colour disappears.

Calculations:

Free Chlorine as ppm Cl = 0.2 X (Number of drops of FC 3)

Note:

- a)Once the end point (colourless) has reached, kindly ignore if the pink colour reappears after sometime.
- b)Reagent FC 1 is highly sensitive to moisture so kindly close the lid of the bottle immediately after the use.
- c)Ensure that only dry spoon is used to handle the FC 1 Reagent.