

**RAKIRO BIOTECH SYSTEMS PVT LTD**

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Doc No : PDAE205

Date : 01-02-2024

Type : AQUASOL

Product Code: AE205

PRODUCT DATA SHEET**1 INFORMATION**

CODE: AE205

PARAMETER: FREE CHLORINE

RANGE: 0.1-2.0 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) Cl₂.

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⁺⁷, 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 up to at least 5 ppm does not interfere. Ferric iron and hydrogen peroxide at concentrations comparable to the test range do not interfere with this chemistry. Chloramines present at concentrations within the test range do not interfere significantly during free chlorine analysis. Samples with extreme pHs or that are highly buffered should be adjusted to pHs of approximately 6 - 7 prior to analysis.

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. Then Determine the concentration of prepared chlorine standard by iodometric method, and analyse as described in procedure card.

6 REAGENTS AND ACCESSORIES

Reagents: FC1(1Nos), FC2(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 Directions for Use:

Directions for Use:

1. Take 10 ml. of water sample to be tested in the test jar.
2. Add one spoonful (provided herewith) of FC 1.
3. Mix contents well to dissolve.
4. If a pink colour does not develop, chlorine is not present.
5. If a pink colour appears, free chlorine is present.
6. Now drop wise* add FC 2 counting the number of drops while mixing, until the pink colour disappears.

Calculations:

Free Chlorine as ppm Cl = 0.1 X (No. of drops of FC 2)

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, 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.