

TITLE: DETERMINATION OF NITRITES IN WATER FOR USE AND CONSUMPTION

BASIS.

Sulfanilic acid in hydrochloric medium, in presence of ammonium and phenol ions, forms nitrite (NO₂), a yellow coloured compound, whose colour intensity is proportional to the concentration of nitrites.

INSTRUMENTS

*Spectrophotometer
50 ml Nessler Tubes*

REAGENTS:

- Distilled water*
- Zambelli Reagent*

PROCEDURE:

Put 260 ml HCl and 500 ml distilled water in a 1-litre flask. Add 5g of sulfanilic acid and 7.5g of crystallised phenol, heating slowly until dissolution. When cold, fill up to one litre volume with distilled water.

- Pure ammonia. 0.925 density*
- Standard nitrite solution. Dissolve 0.345g of sodium nitrite in distilled water up to 1L (1ml = 0.230mg of nitrite). Store in fridge, adding 1ml of chloroform, for one month.*
- Daughter nitrite solution. Dissolve the standard nitrite solution to 1/100. (1 ml = 0.023 mg/1 of nitrites)*

	BLANK	STANDARD	TEST
Distilled water	50ml	45ml	----
Daughter solution	----	5ml	----
Test water	----	----	50ml
Zambelli Reagent	2ml	2ml	2ml
Ammonia	2ml	2ml	2ml

Mix and let stand for 5 minutes

Read in spectrophotometer at 435 nm.

Concentration of St.= 0.23 mg/l of NO₂.

The concentration of the test sample is determined directly on the calibration curve performed, which is done by interpolation after measuring absorbance.