

MEASUREMENT OF BROMINE IN THE PRESENCE OF CHLORINE

It is possible to determine bromine in the presence of chlorine, and to separate between bromine and chlorine residuals. This instruction sheet gives the test procedures for these determinations.

Reagents and Equipment

Palintest DPD No 1 Tablets

Palintest DPD No 3 Tablets

Palintest Glycine Tablets

Equipment as per Instruction Sheet PHOT.5.AUTO

Test Procedure - Total Bromine (in the Presence of Chlorine)

- 1 Fill a test tube with sample to the 10 ml mark. Add one DPD Glycine tablet, crush and mix to dissolve.
- 2 Take a second clean test tube and add two to three drops of solution from the first tube. Add one DPD No 1 tablet and then add the remainder of the solution to make up to the 10 ml mark. Mix to dissolve tablet.
- 3 Select Phot 5 on the photometer. Take the test reading immediately using the photometer in the usual manner.
- 4 The result obtained represents the total bromine residual as mg/l Br₂ (Result A).

For most purposes the test can be terminated at this stage. However if it is desired to measure free and combined chlorine, proceed as indicated in the following section :-

Test Procedure - Free and Combined Chlorine (in the Presence of Bromine)

- 1 Rinse the test tube with sample leaving two to three drops in the tube.
- 2 Add one DPD No 1 tablet and crush. Fill the tube with sample to the 10 ml mark and mix to dissolve the tablet.
- 3 Select Phot 5 on the photometer. Take the test reading immediately using the photometer in the usual manner.
- 4 The result obtained represents total bromine plus free chlorine as mg/l Br₂ (Result B).
- 5 Continue the test by adding one DPD No 3 tablet. Crush and mix to dissolve.
- 6 Allow the tube to stand for two minutes and then take the reading on Phot 5 using the photometer in the usual manner.
- 7 The result obtained represents total bromine plus free chlorine plus combined chlorine as mg/l Br₂ (Result C).

Calculation of Results

The various residuals can be calculated from the above results as follows :-

Total Bromine (as Br₂) = Result A

Free Chlorine (as Cl₂) = (Result B - Result A) x 0.44

Combined Chlorine (as Cl₂) = (Result C - Result B) x 0.44

Total Chlorine (as Cl₂) = (Result C - Result A) x 0.44
