

TUBETESTS® AMMONIA/50N (NESSLER)

TEST FOR AMMONIA IN NATURAL,
SEA AND WASTE WATER

Photometer Method

**AUTOMATIC
WAVELENGTH
SELECTION**

0 – 50 mg/l N

Ammonia occurs as a breakdown product of nitrogenous material in natural waters. It is also found in domestic effluents and certain industrial waste waters. Ammonia is harmful to fish and other forms of aquatic life and the ammonia level must be carefully controlled in water used for fish farms and aquariums. Ammonia tests are routinely applied for the monitoring of natural water, sea water; and for pollution control on effluents and waste waters.

The Palintest Tubetests Ammonia/50N (Nessler) test provides a simple method of measuring ammonia (ammoniacal nitrogen) over the range 0 - 50 mg/l N.

Method

The Palintest Tubetests Ammonia/50N (Nessler) test is based on the Nessler method. Nessler's reagent (potassium tetraiodomercurate (II)) reacts rapidly with ammonia under alkaline conditions to form an orange-brown product. Turbidity due to hardness salts is prevented by adding the sample to a solution of Rochelle salt prior to adding the Nessler reagent.

The intensity of the colour produced in the test is proportional to the ammonia concentration and is measured using a Palintest Photometer or Ammonia Meter.

Reagents and Equipment

Palintest Tubetests Ammonia 50N (Nessler) Tubes

Palintest Tubetests Ammonia (Nessler) Reagent

Palintest Automatic Wavelength Selection Photometer or Ammonia Meter

Palintest Pipettor, 1 ml (PT 574)

Test Instructions

- 1 Remove the cap of the Tubetests Ammonia/50N (Nessler) Tube and add 1.0 ml of sample using the pipettor or Pasteur pipette. Cap tube and invert three times to mix.
- 2 Add 0.5 ml of Tubetests Ammonia (Nessler) Reagent. Replace cap and invert several times to mix.
- 3 Stand for one minute to allow colour development.
- 4 Select Phot 94 on Photometer, or select range 50n on Ammonia Meter.
- 5 Take photometer reading in usual manner (see Photometer instructions). Use an unused Tubetests Ammonia/50N (Nessler) Tube to set the blank on the photometer. Alternatively, a Tubetests tube containing deionised water only may be used.
- 6 The result is displayed as mg/l N.

Notes

- 1 Nessler's reagent is toxic. Handle with care. This reagent is for use in professional water testing applications only.
- 2 Nessler's reagent is sensitive to air. Replace cap when not in use.
- 3 Ammonia concentrations can be expressed in a number of different ways. The following factors may be used for the conversion of readings :-

To convert from N to NH_4 - multiply by 1.3

To convert from N to NH_3 - multiply by 1.2

- 4 Interferences. Sufficient Rochelle salt is present to prevent turbidity due to at least 1,000 mg/l hardness. The test can be used on sea or salt water without the need for pre-treatment of the sample.

Disposal

Used Ammonia (Nessler) tubes contain alkaline mercury salts - which are toxic. Care must therefore be exercised in their disposal. The tubes must be disposed of in accordance with current waste legislation and consent limits. Used tubes must always be treated using a proper waste disposal system. A tube disposal service is available through Palintest Ltd (UK only). The tubes must not be reused as they are designed for single use only.
