

## Instruction Manual

# HI 3824 Ammonia Test Kit for Fresh Water



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Dear Customer,

Thank you for choosing a Hanna Instruments Product.

Please read this instruction manual carefully before using the chemical test kit. It will provide you with the necessary information for correct use of the kit.

Remove the chemical test kit from the packing material and examine it carefully to make sure that no damage has occurred during shipping. If there is any noticeable damage, notify your Dealer or the nearest Hanna office immediately.

Each kit is supplied with:

- 1 plastic beaker (20 mL) with cap;
- 1 color comparator cube;
- Ammonia Reagent 1 for Fresh Water, 1 bottle with dropper (20 mL);
- Nessler Reagent, 1 bottle with dropper (20 mL).

**Note:** Any damaged or defective item must be returned in its original packing materials.

ISTR3824 04/13

## Specifications

|                    |                                      |
|--------------------|--------------------------------------|
| Range              | 0.0 to 2.5 mg/L NH <sub>3</sub> -N   |
| Smallest Increment | 0.5 mg/L NH <sub>3</sub> -N          |
| Analysis Method    | Colorimetric                         |
| Sample Size        | 10 mL                                |
| Number of Tests    | 25 (average)                         |
| Case Dimensions    | 220 x 145 x 55 mm (8.7 x 5.7 x 2.1") |
| Shipping Weight    | 180 g (6.8 oz.)                      |

## Significance and Use

In nature, the ammonia level in water can vary. Ground water normally contains ammonia due to bacterial decay of plants and animals. However, the presence of ammonia in surface water may be evidence of sanitary pollution due to waste discharges or natural causes.

The Hanna Ammonia Test Kit determines the ammonia concentration in water in several easy steps. The kit is portable and can be used in the field as well as in the laboratory.

\* mg/l is equivalent to ppm (parts per million)

## Chemical Reaction

The ammonia level in mg/L (or ppm), ammonia as nitrogen is determined by a colorimetric method.

The Nessler reagent reacts with ammonia, under strong alkaline conditions, to form a yellow colored complex (see equation below). An addition of Reagent 1 (EDTA solution) inhibits precipitation of calcium and magnesium ions due to the presence of the alkaline Nessler reagent.

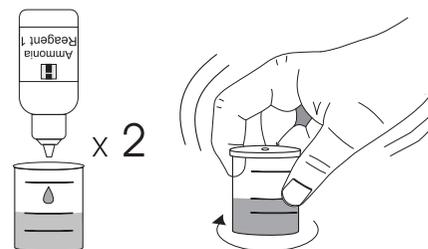
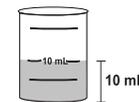
The color intensity of the solution determines the ammonia concentration.



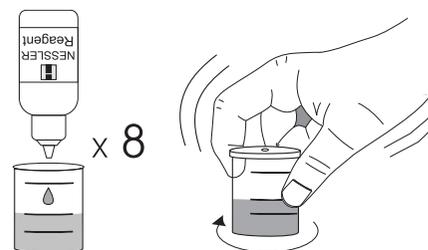
## Instructions

READ THE ENTIRE INSTRUCTIONS BEFORE USING THE KIT

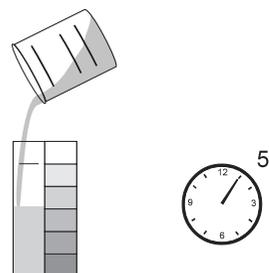
- Remove the cap from the plastic beaker. Rinse the plastic beaker with water sample before filling it up to the 10 mL mark.
- Add 2 drops of Ammonia Reagent 1 for Fresh Water, replace the cap and mix by carefully swirling the beaker in tight circles.



- Add 8 drops of Nessler Reagent, replace the cap and mix by carefully swirling the beaker.



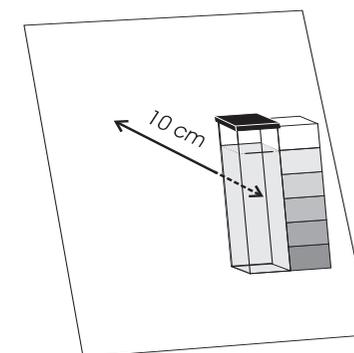
- Remove the cap and transfer the solution into the color comparator cube. Wait for 5 minutes to allow color to develop.



- Determine which color matches the solution in the cube, and record the results in mg/L (or ppm) NH<sub>3</sub>-N.



- It is better to match the color with a white sheet at about 10 cm behind the comparator.



## Accessories

- HI 3824-025 replacement kit (25 tests average)
- HI 3824-99 color cube for ammonia test kit
- HI 740032P cap for 20 mL plastic beaker (10 pcs.)
- HI 740037P 20 mL plastic beaker (10 pcs.)

## Bibliography

Standard Methods for the Examination of Water and Wastewater, 16<sup>th</sup> Edition, 1985, pages 379-382.

## Health and Safety Data Sheets

The chemicals contained in this kit may be hazardous if improperly handled. Read Health and Safety Data Sheet before performing this test.