

Ammonia-Nitrogen 1

Range(s): 0-1.00 ppm $\text{NH}_3\text{-N}$, 0-1.20 ppm NH_3 , 0-1.30 ppm NH_4^+



Procedure

Note: When testing multiple samples simultaneously, a separate sample cell with an unreacted sample of the water tested must be used to zero the colorimeter. Please note that varying the test procedure from the original can affect the precision of the test.

Note: Glassware that has not been properly cleaned may contaminate the sample and affect test results. If metal contamination is suspected, clean glassware thoroughly before use with Nitric Acid 1N (R-0801); then rinse thoroughly with DI Water (R-0833) or sample water.

Note: Filter turbid or colored sample water before testing.

1. Turn on the Colorimeter.
2. Select a test menu (ALL TESTS, RECENT TESTS, or FAVORITES) containing Ammonia-Nitrogen 1 using $\blacktriangleleft\blacktriangleright$.

3. Select Ammonia-Nitrogen 1 using $\blacktriangle\blacktriangledown$; then press ENTER $\odot$.
4. Select a chemical form ($\text{NH}_3\text{-N}$, NH_3 , or NH_4^+) for expression of test results using $\blacktriangle\blacktriangledown$.
5. Rinse and fill 25 mm sample cell to 10 mL mark with sample water; then cap.
6. Insert sample cell into sample cell compartment. Align marks per User's Manual.
7. Select ZERO using $\blacktriangleleft\blacktriangleright$; then press ENTER $\odot$. Zero will be displayed.
8. Remove sample cell from sample cell compartment; then remove cap.
9. Add 0.5 mL Ammonia-Nitrogen 1 - Reagent A; then swirl to mix.
10. Add 0.5 mL Ammonia-Nitrogen 1 - Reagent B; then swirl to mix.

11. Add 0.5 mL Ammonia-Nitrogen 1 - Reagent C; then cap and invert five times to mix.
12. Insert sample cell into sample cell compartment. Align marks.
13. Select TIMER using $\blacktriangleleft\blacktriangleright$; then press ENTER $\odot$.
14. Select START using $\blacktriangleleft\blacktriangleright$; then press ENTER $\odot$. (A 7-minute [07:00] countdown will begin.) Immediately select AUTO using $\blacktriangleleft\blacktriangleright$; then press ENTER $\odot$.
15. When the timer beeps, the instrument will read the sample and the result will be displayed.

Interferences

Bromine >1 ppm – negative interference
 Chlorine >2 ppm – negative interference
 Fluoride >10 ppm – negative interference
 Hardness, Calcium (CaCO_3) >1000 ppm – positive interference

Iron, Ferric >2 ppm – positive interference
 Iron, Ferrous, all levels – positive interference
 Nitrate >100 ppm – positive interference
 Nitrite >50 ppm – positive interference

Phosphate >100 ppm – negative interference
 Phosphonate >10 ppm – positive interference
 Sulfate >400 ppm – positive interference

Interferences (continued)

The following analytes were tested to the levels listed and found not to cause any interference up to the specified values:

Alkalinity, Total (CaCO₃) – 1000 ppm

Azole (BT) – 6 ppm

Azole (TT) – 6 ppm

Chloride – 3500 ppm

Copper – 5 ppm

Hardness, Magnesium (CaCO₃) – 500 ppm

Molybdate – 30 ppm

Polymer – 1000 ppm

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Polyphosphate – 20 ppm

Silica – 150 ppm

Sulfite – 100 ppm

Zinc – 10 ppm

Test Method

Salicylate

Under basic conditions ammonia, in the presence of hypochlorite and sodium nitroprusside, reacts to form a green-colored complex that is proportional to the concentration of ammonia-nitrogen in a sample.

Estimated Detection Limit

0.040 ppm NH₃-N

Precision

Using two lots of reagent and a standard solution of 0.500 ppm NH₃-N, an individual analyst obtained a standard deviation with the instrument of ± 0.020 ppm NH₃-N.

Application

Industrial Water

Ordering Info

Reagent Pack

K-8038 Ammonia-Nitrogen 1

Formulated for exclusive use with Taylor's
TTi® Colorimeter.

Reagent Pack Components

R-8038A Ammonia-Nitrogen 1 - Reagent A

R-8038B Ammonia-Nitrogen 1 - Reagent B

R-8038C Ammonia-Nitrogen 1 - Reagent C

Optional Reagents & Accessories

R-0801 Nitric Acid 1N

R-0833 DI Water

#6249 Filter Disc Holder, 25 mm, Millipore™

#6257 Filter Discs, Syringe, 25 mm diameter,
2.5 μ m, Whatman™, 100/box

#6260 Syringe (no filter disc holder or filter discs),
30 mL, plastic



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