AMMONIA NITROGEN TEST KIT

Code 3351-02 | Octa-Slide Method

LaMotte

QUANTITY	CONTENTS	CODE
30 mL	Ammonia Nitrogen Reagent #1	4797WT-G
30 mL	*Ammonia Nitrogen Reagent #2	*4798WT-G
2	Test Tubes, 2.5-5.0-10.0 mL, plastic, w/caps	0106
1	Ammonia Nitrogen Octa-Slide 2 Bar, 0.2-3.0 ppm	3438-01
1	Octa-Slide 2 Viewer	1101

To order individual reagents or test kit components, use the specified code number.

*Reagent is a potential health hazard. **READ SDS:** lamotte.com

Emergency information:
Chem-Tel USA 1-800-255-3924
Int'l, call collect, 813-248-0585

Warning! This set contains chemicals that may be harmful if misused. Read cautions on individual containers carefully. Not to be used by children except under adult supervision.

USE OF THE OCTA-SLIDE 2 VIEWER

PROCEDURE

1. Insert the Ammonia Nitrogen Octa-Slide 2 Bar (3438-01) into the Octa-Slide 2 Viewer (1101).
2. Fill test tube (0106) to the 5 mL line with sample water.
3. Add 4 drops of Ammonia Nitrogen Reagent #1 (4797WT). Cap and mix. Wait 1 minute.
   NOTE: When testing salt (sea) water, increase the amount of Ammonia Nitrogen Reagent #1 to 8 drops.
4. Add 12 drops of *Ammonia Nitrogen Reagent #2 (4798WT). Cap and mix. Wait five minutes.
   NOTE: When testing salt water, the reading should be taken after 1 minute to prevent precipitation.
5. Insert test tube into the top of the viewer. Hold the Viewer so that non-direct light enters through the back. Match sample color to a color standard. Record as ppm Ammonia Nitrogen (NH_3-N).

CONVERSIONS

To express results as Ammonia (NH_3):

ppm Ammonia (NH_3) = ppm Ammonia Nitrogen (NH_3-N) x 1.2

To express results as Ammonium (NH^{4+}):

ppm Ammonium (NH^{4+}) = ppm Ammonia Nitrogen (NH_3-N) x 1.3

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Ammonia in water occurs in two forms: toxic unionized ammonia (NH_3) and the relatively non-toxic ionized form, ammonium ion (NH^{4+}). This test method measures both forms as ammonia nitrogen (NH_3-N) to give the total ammonia nitrogen concentration in water. The actual proportion of each compound depends on temperature, salinity, and pH. A greater concentration of unionized ammonia is present when the pH value and salinity increase.

1. Consult the table to find the percentage that corresponds to the temperature, pH, and salinity of the sample.
2. To express the test result as ppm Unionized Ammonia Nitrogen (NH_3-N), multiply the total ammonia nitrogen test result by the percentage from the table.
3. To express the test result as ppm Ionized Ammonia Nitrogen (NH^{4+}-N), subtract the unionized ammonia nitrogen determined in step 2 from the total ammonia nitrogen.

	10°C		15°C		20°C		25°C	
pH	FW[1]	SW[2]	FW	SW	FW	SW	FW	SW
7.0	0.19	—	0.27	—	0.40	—	0.55	—
7.1	0.23	—	0.34	—	0.50	—	0.70	—
7.2	0.29	—	0.43	—	0.63	—	0.88	—
7.3	0.37	—	0.54	—	0.79	—	1.10	—
7.4	0.47	—	0.68	—	0.99	—	1.38	—
7.5	0.59	0.459	0.85	0.665	1.24	0.963	1.73	1.39
7.6	0.74	0.577	1.07	0.836	1.56	1.21	2.17	1.75
7.7	0.92	0.726	1.35	1.05	1.96	1.52	2.72	2.19
7.8	1.16	0.912	1.69	1.32	2.45	1.90	3.39	2.74
7.9	1.46	1.15	2.12	1.66	3.06	2.39	4.24	3.43
8.0	1.83	1.44	2.65	2.07	3.83	2.98	5.28	4.28
8.1	2.29	1.80	3.32	2.60	4.77	3.73	6.55	5.32
8.2	2.86	2.26	4.14	3.25	5.94	4.65	8.11	6.61
8.3	3.58	2.83	5.16	4.06	7.36	5.78	10.00	8.18
8.4	4.46	3.54	6.41	5.05	9.09	7.17	12.27	10.10
8.5	5.55	4.41	7.98	6.28	11.18	8.87	14.97	12.40

[1]Freshwater data from Trussel (1972).

[2]Seawater values from Bower & Bidwell (1978). Salinity for seawater values = 34% at an ionic strength of 0.701 m

FOR EXAMPLE:

A freshwater sample at 20°C has a pH of 8.5 and the test result is 1.0 ppm as total Ammonia Nitrogen.

1. The percentage from the table is 11.18% (or 0.1118).
2. 1 ppm total Ammonia Nitrogen x 0.1118 = 0.1118 ppm Unionized Ammonia Nitrogen
3. Total Ammonia Nitrogen 1.0000 ppm
   Unionized Ammonia Nitrogen - 0.1118 ppm
   Ionized Ammonia Nitrogen = 0.8882 ppm

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