



FRESHWATER MASTER KIT

TESTS FOR:

**pH, High Range pH, Ammonia,
Nitrite, & Nitrate**

Simple & Accurate

**600
tests**

 **taylor**® *the most trusted name in water testing*®

pH – pH is a measurement of how acidic or basic water is. A neutral pH is 7.0. Anything above a pH of 7.0 is basic and anything below 7.0 is acidic. A consistent pH level is essential in maintaining a healthy aquarium environment and to reduce stress to fish. The most common changes in pH can be caused by overcrowding, overfeeding, and filtration issues. As a precaution, the pH of the aquarium water should be tested weekly.

Ammonia – Ammonia (NH_3) and ammonium (NH_4^+) occur naturally in aquarium water as waste products and as decomposing organic matter. This includes excess food and urea. Beneficial bacteria, known as nitrifying bacteria, build up in the aquarium overtime and are part of the nitrogen cycle (ammonia → nitrite → nitrate), which removes ammonium. Any ammonia in the water can harm inhabitants, making them stressed, more prone to disease, and cause possible death. The extent of toxicity is dependent upon species, concentration of ammonia, pH, and temperature. The most common causes of ammonia are overcrowding, overfeeding, filtration issues, and beneficial bacterial issues. As a precaution, aquarium water should be tested for ammonia weekly.

Nitrite – Nitrite (NO_2^-) is made naturally in the aquarium through the conversion of ammonia to nitrite. This is done by nitrifying bacteria. These beneficial bacteria build up in the aquarium overtime and are part of the nitrogen cycle (ammonia → nitrite → nitrate) which removes nitrite. Any nitrite in the water can harm fish, making them stressed, more likely to get disease, and cause possible death. When an aquarium is first getting started, the water should be tested for nitrite every few days. After cycling is completed, aquarium water should be tested weekly.

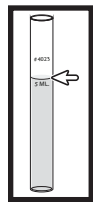
Nitrate – Nitrate (NO_3^-) occurs naturally in the aquarium through the conversion of nitrite to nitrate. This is done by nitrifying bacteria. These beneficial bacteria build up in the aquarium overtime and are part of the nitrogen cycle (ammonia → nitrite → nitrate) which converts organic matter into nitrates. High levels of nitrate are often caused by fish waste and excess food. Nitrate in high levels will stress out tank inhabitants and increase chances of fish disease, as well as increase algae production. Aquarium water should be tested weekly to maintain consistent nitrate levels.

pH Indicator pH (6.0-7.6)

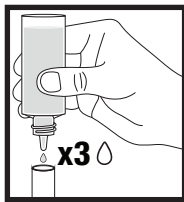
Procedure

Keep Reagents Away From Children. Do not put reagents or samples into aquarium.

pH Test



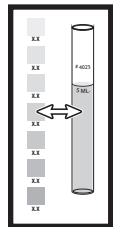
1. Add 5 mL of sample water to a clean test tube (#4023).



2. Add 3 drops of R-4000 pH Indicator. Hold dropper bottle vertically when dispensing the reagent.



3. Secure stopper in test tube and shake to mix.



4. Compare the results to the color card immediately. Make sure to hold the test tube in bright light and fully against the white background for the most accurate reading.

Recommendations

The test is designed for samples with pH between 6.0 and 7.6. Test will not provide accurate results if sample is out of range. If pH results match 6.0 or 7.6, consider that the pH could be below or above those pH values, respectively.

GENERAL pH PREFERENCES FOR COMMON FRESHWATER FISH

MINNOW, GOURAMI, ANGELFISH, SHRIMP, BARB, DANIO	6.0-8.0
GUPPY	6.0-8.4
GOLDFISH	6.5-7.5
BETTA	6.8-7.5
TETRA	6.8-7.8
PLATY, MOLLY	6.8-8.0
SWORDTAIL, SNAIL	7.0-8.4
AFRICAN CICHLID	7.8-8.6

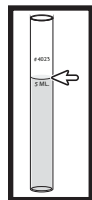
To lower or raise the pH of the aquarium, use *pH INCREASE (R-4001)* or *pH DECREASE (R-4002)* – sold separately – to bring pH within desired range.

High Range pH Indicator pH (7.2-8.8)

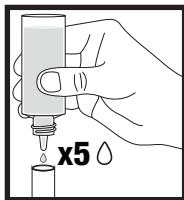
Procedure

Keep Reagents Away From Children. Do not put reagents or samples into aquarium.

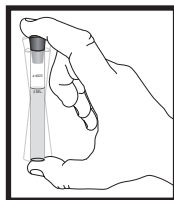
High Range pH Test



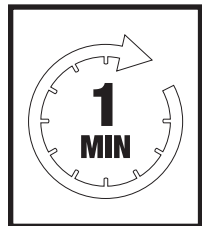
- 1.** Add 5 mL of sample water to a clean test tube (#4023).



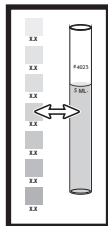
- 2.** Add 5 drops of R-4003 High Range pH Indicator. Hold dropper bottle vertically when dispensing the reagent.



- 3.** Secure stopper in test tube and shake to mix.



- 4.** Wait 1 minute for color to develop.



- 5.** Compare the results to the color card. Make sure to hold the test tube in bright light and fully against the white background for the most accurate reading.

GENERAL pH PREFERENCES FOR COMMON FRESHWATER FISH

MINNOW, GOURAMI, ANGELFISH, SHRIMP, BARB, DANIO	6.0-8.0
GUPPY	6.0-8.4
GOLDFISH	6.5-7.5
BETTA	6.8-7.5
TETRA	6.8-7.8
PLATY, MOLLY	6.8-8.0
SWORDTAIL, SNAIL	7.0-8.4
AFRICAN CICHLID	7.8-8.6

To lower or raise the pH of the aquarium, use *pH INCREASE (R-4001)* or *pH DECREASE (R-4002)* – sold separately – to bring pH within desired range.

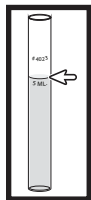
Ammonia

$\text{NH}_3/\text{NH}_4^+$ (0-8 ppm)

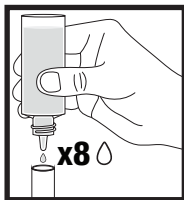
Procedure

Keep Reagents Away From Children. Do not put reagents or samples into aquarium.

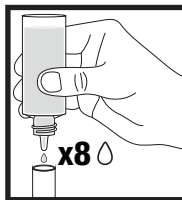
Ammonia Test



- 1.** Add 5 mL of sample water to a clean test tube (#4023).



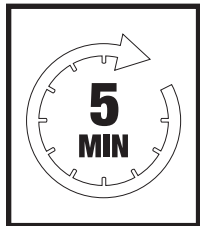
- 2.** Add 8 drops of R-4004 Ammonia Reagent #1. Hold dropper bottle vertically when dispensing the reagent.



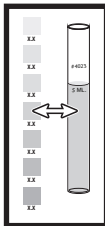
- 3.** Add 8 drops of R-4005 Ammonia Reagent #2.



- 4.** Secure stopper in test tube and shake for 5 seconds to mix.



- 5.** Wait 5 minutes for full color development.



- 6.** Compare the results to the color card. Make sure to hold the test tube in bright light and fully against the white background for the most accurate reading.

Recommendations

Ammonia levels are recommended to be kept at 0 ppm. If ammonia levels read higher than 0.25 ppm, it is recommended to perform a water change. Clean vial immediately after testing, as contents can stain the tube.

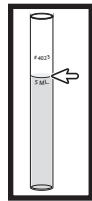
Nitrite

NO_2^- (0-5 ppm)

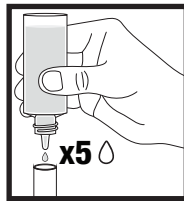
Procedure

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Nitrite Test



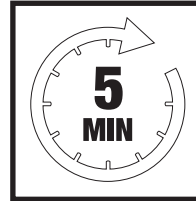
1. Add 5 mL of water to a clean test tube (#4023).



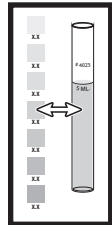
2. Add 5 drops of R-4006 Nitrite Reagent. Hold dropper bottle vertically when dispensing the reagent.



3. Secure stopper in test tube and shake for 5 seconds to mix.



4. Wait 5 minutes for full color development.



5. Compare the results to the color card. Make sure to hold the test tube in bright light and against the white background for the most accurate reading.

Recommendations

Nitrite levels are recommended to be kept at 0 ppm. If nitrite levels read higher than 0.25 ppm, it is recommended to perform a water change. When cycling an aquarium, the tank will need to build up beneficial bacterial before reaching 0 ppm nitrite.

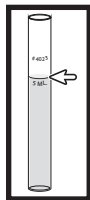
Nitrate

NO_3^- (0-160 ppm)

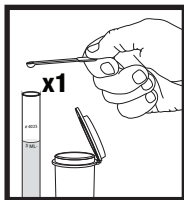
Procedure

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Nitrate Test



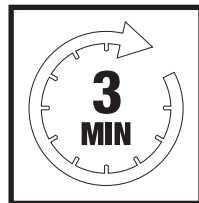
1. Add 5 mL of sample water to a clean test tube (#4023).



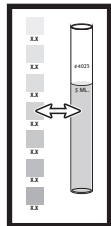
2. Add 1 level scoop of R-4007 Nitrate Reagent.



3. Secure stopper in test tube and shake for 10 seconds to mix.



4. Wait 3 minutes for full color development.



5. Compare the results to the high-end color card. Make sure to hold the test tube in bright light and against the white background for the most accurate reading. If results appear lower than 5 ppm, remove the cap and place standing up on the white background of the low-end color chart. Compare colors by looking down through the tube from above.

Recommendations

Nitrate is recommended to be kept below 40 ppm. Keeping consistent nitrate levels is as important as maintaining nitrate levels below 40 ppm, since large changes in water conditions can cause fish illness and death. Keep nitrate levels down by removing excess food and changing tank water weekly.

Kit Components

R-4000-A	pH Indicator	5x 4023	Test Tube, Calibrated (5 mL), glass
R-4003-A	High Range pH Indicator	5x 6021	Stopper, Test Tube (5 mL, calibrated), rubber (for 4023)
R-4004-A	Ammonia Reagent #1	6002	Brush, Test Cell
R-4005-B	Ammonia Reagent #2	5624	Color Card, Freshwater
R-4006-A	Nitrite Reagent	5260	Instruction Booklet, Freshwater
R-4007-I	Nitrate Powder		

To order replacement parts and reagents; Call toll-free **800-TEST KIT (800-837-8548)** or Visit **www.TaylorAquarium.com**



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