



FRESH WATER AQUACULTURE KIT CODE 3633-05

NOTE: It is important to read the instruction manual before attempting to perform the tests with the short form instructions provided below.

pH

1. Insert Wide Range pH Octa-Slide 2 Bar (3483-01) into Octa-Slide Viewer (1101).
2. Fill test tube (0106) to 10 mL line with sample water.
3. Add 8 drops *Wide Range pH Indicator (2218). Cap and mix.
4. Insert test tube into Octa-Slide 2 Viewer.
5. Record as pH.

AMMONIA NITROGEN

1. Insert Ammonia Nitrogen Octa-Slide 2 Bar (3441-01-FW) into Octa-Slide Viewer (1101).
2. Fill test tube (0106) to 5 mL line with sample water.
3. Add 10 drops *Salicylate Ammonia Reagent #1 (3978WT). Cap and mix.
4. Add 7 drops of *Salicylate Ammonia Reagent #2 (3979WT). Cap and mix. Wait 1 minute.
5. Add 7 drops of Salicylate Ammonia Reagent #3 (3982WT). Cap and mix. Wait 20 minutes.
6. Insert test tube into Octa-Slide 2 Viewer.
7. Match sample color to a standard. Record as ppm Ammonia Nitrogen ($\text{NH}_3\text{-N}$).

*WARNING: Reagents marked with an * are considered to be potential health hazards. To view or print a Safety Data Sheet (SDS) for these reagents go to www.lamotte.com. Search for the four digit reagent code number listed on the reagent label, in the contents list or in the test procedures. Omit any letter that follows or precedes the four digit code number. For example, if the code is 4450WT-H, search 4450. To obtain a printed copy, contact LaMotte by email, phone or fax.

Emergency information for all LaMotte reagents is available from Chem-Tel:
(US, 1-800-255-3924) (International, call collect, 813-248-0585)

NITRITE NITROGEN

1. Insert Nitrite Nitrogen Octa-Slide 2 Bar (3437-01) into Octa-Slide Viewer (1101).
2. Fill test tube (0106) to 2.5 mL line with sample water.
3. Dilute to 5 mL line with *Mixed Acid Reagent (V-6278).
4. Use 0.1g spoon (0699) to add 0.1g of *Color Developing Reagent (V-6281). Cap and mix for 1 minute. Wait 5 minutes.
5. Insert test tube into Octa-Slide 2 Viewer.
6. Record as ppm Nitrite Nitrogen ($\text{NO}_2\text{-N}$).

ALKALINITY

1. Fill test tube (0608) to 5 mL line with sample water.
2. Add 4 drops of BCG-MR Indicator (2311-PG). Cap and mix. Sample will turn blue-green.
3. Fill Direct Reading Titrator (0382) with *Alkalinity Titration Reagent B (4493DR).
4. Titrate sample until blue-green color changes to pink.
5. Record as ppm Alkalinity (CaCO_3).

CARBON DIOXIDE

1. Fill test tube (0608) to 20 mL line with sample water.
2. Add 2 drops *Phenolphthalein Indicator, 1% (2246). If sample turns red, no free carbon dioxide is present. If colorless, proceed to Step 3.
3. Fill Direct Reading Titrator (0380) with Carbon Dioxide Reagent B (4253DR).
4. Titrate sample until faint pink color persists for 30 seconds.
5. Record as ppm Carbon Dioxide (CO_2).

CHLORIDE

1. Fill test tube (0608) to 15 mL line with sample water.
2. Add 1 drop *Phenolphthalein Indicator, 1% (2246). If sample is colorless, proceed to Step 3. If sample turns pink, add *Sulfuric Acid, 0.5N (6090) one drop at a time until pink color disappears.
3. Add 3 drops *Chloride Reagent #1 (4504). Cap and mix. Sample will turn yellow.
4. Fill Direct Reading Titrator (0382) with *Chloride Reagent #2 (4505DR).
5. Titrate sample until yellow color first changes to orange or orange-red.
6. Record as ppm Chloride (Cl).

HARDNESS

1. Fill test tube (0608) to 12.9 mL line with sample water.
2. Add 5 drops of *Hardness Reagent #5 (4483). Cap and mix.
3. Add 5 drops of *Hardness Reagent #6 (4485). Cap and mix. Sample will turn red if hardness is present. If solution is blue, there is no measurable amount of hardness.
4. Fill Direct Reading Titrator (0382) with Hardness Reagent #7 (4487DR).
5. Titrate sample until red color changes to clear blue.
6. Record as ppm Total Hardness (CaCO_3).

DISSOLVED OXYGEN

SAMPLING

1. Rinse sampling bottle (0688-DO). Replace cap.
2. Submerge bottle, then remove cap.
3. Tap sides of bottle to release air bubbles.
4. While bottle is submerged replace cap and retrieve from water.
5. If air bubbles are present repeat sampling method.

PRESERVATION

1. Add 8 drops of *Manganous Sulfate Solution (4167).
2. Add 8 drops of *Alkaline Potassium Iodide Azide Solution (7166). Caution. Cap and mix by inverting several times. Allow precipitate to settle.
3. Add 8 drops of *Sulfuric Acid, 1:1 (6141WT).
4. Cap and mix until precipitate dissolves. Sample is now "fixed".

TEST PROCEDURE

1. Fill test tube (0608) to 20 mL line with "fixed" sample. Cap.
2. Fill Direct Reading Titrator (0377) with Sodium Thiosulfate, 0.025N (4169). Titrate sample, swirling between each addition until color is a very faint yellow.
3. Remove Titrator and cap. Add 8 drops of Starch Indicator Solution (4170WT). Sample should turn blue. Replace cap and Titrator.
4. Titrate sample until blue color just disappears.
5. Record as ppm Dissolved Oxygen (O_2).

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