



Aquaculture Manual

The Lovibond® Compact Lab Aquaculture Kit- INBYOK-2001

- ◆ Ammonium
- ◆ pH
- ◆ Total Alkalinity
- ◆ Total Hardness
- ◆ Nitrate NO_3
- ◆ Nitrite NO_2
- ◆ Phosphate $\text{PO}_4\text{-3}$
- ◆ Carbonate Hardness
- ◆ Ammonia
- ◆ Oxygen O_2
- ◆ Temperature

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CONTENTS - AMMONIUM COLOUR CARD

WORKING RANGE: 0-5 ppm as NH₃, Indophenol blue method

MEASURING RANGE: 0, 0.25, 0.5, 1, 1.5, 2, 3, 4, 5



Test Procedure

1. Take 5 ml water sample in a glass vial.
 2. Add 5 drops of Ammonium Reagent 1.
 3. Add 2 drops of Ammonium Reagent 2 and mix well
 4. Then add 1 tablet of Ammonia No. 2, crush to dissolve, and wait for 10 mins.
 - 5 Notice the colour change and compare it with the colour card provided
 6. The matching colour corresponds to the Ammonium of the water sample.
- This will give the exact Ammonium value directly of the water sample

CONTENTS - CARBONATE HARDNESS (DROP TEST)

WORKING RANGE: 0 - 400 ppm as CaCO₃, Acidimetric Method



Test Procedure

1. Take 5 ml water sample in a glass vial
 2. Add 1 drop of Carbonate Hardness Reagent No. 1 and mix well. The colour will change to yellow
 3. Add Carbonate Hardness Reagent No. 2 drop wise until the colour changes from yellow to orange
 4. Make sure to count the number of drops added and mix the solution by swirling in the glass vial after each drop
 5. To obtain the Carbonate Hardness in water in ppm as CaCO₃ multiply the number of drops that were added in step 3 by factor 15
- This will give the Carbonate Hardness value directly of the water sample.

Aquaculture Manual

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CONTENTS - TOTAL HARDNESS

WORKING RANGE: 0 – 500 mg/l (ppm) as CaCO₃, Triplex III Method



Test Procedure

1. Take 0.5 ml water sample in a test tube.
2. Add 1 drop Total Hardness reagent No. 1 and mix well.
3. Add 1 drop Total Hardness reagent No. 4 and mix well. The colour will change to wine red.
4. Add Total Hardness reagent No. 5 drop wise until the colour changes from wine red to blue.
5. Make sure to count the number of drops added and mix the solution by swirling in the test tube after each drop.
6. To obtain the Total Hardness in water in mg/l as CaCO₃, multiply the number of drops that were added in step 5 by factor 40.

This will give the Total Hardness value directly as CaCO₃ of the water sample.

CONTENTS - pH COLOUR CARD

WORKING RANGE: 4.5-9 pH

MEASURING RANGE: 4.5, 5, 5.5, 6, 6.5, 7, 7.5, 8, 8.5, 9



Test Procedure

1. Take 5 ml water sample in a glass vial.
2. Add 1 drop of pH Indicator and mix well.
3. Wait for 5 minutes.
4. Notice the colour change and compare it with the colour card provided with the kit.
5. The matching colour corresponds to the pH of the water sample.

This will give the exact pH value directly of the water sample.

Aquaculture Manual

The Lovibond® Compact Lab Aquaculture Kit- INBYOK-2001



CONTENTS - NITRATE COLOUR CARD

WORKING RANGE: 0 – 150 mg/l (ppm) as NO₃, Sulfanilic Acid Method

MEASURING RANGE: 0, 25, 50, 75, 100, 125, 150 ppm as NO₃



Test Procedure

1. Take 5 ml water sample in a glass vial.
2. Add 2 drops Nitrate Reagent 1.
3. Add 1 leveled spoon of spatula No. 1 (0.05gms) of Nitrate Reagent 2.
4. Mix and wait for 10 mins.
5. Decant the supernatant into another glass vial.
6. Sequentially Add 1 drop Nitrite Reagent 1, 1 drop Nitrite Reagent 2, 1 levelled spoon of Spatula No. 1 (0.03gms) provided with the kit of Nitrite Reagent 3 and finally add 1 drop Nitrite Reagent 4, mix well.
7. Wait for 3 mins.
8. Compare the colour with the colour card provided with the kit.

This will give the Nitrate value directly as NO₃ of the water sample finally add 1 drop Nitrite Reagent 4, mix well.

Aquaculture Manual

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CONTENTS - DISSOLVED OXYGEN (DO)

WORKING RANGE: 0-10 ppm as O₂



Test Procedure

1. Take 5 ml water sample in a glass vial.
2. Add 1 drops of DO Reagent 1 and 2 drops of DO Reagent 2, mix slowly.
3. Wait for 1 minute.
4. Add 1 drop of DO Reagent 3, mix slowly and wait for 2 mins.
5. Notice the colour change and compare it with the colour card provided with the kit.
6. Matching colour corresponds to the DO of the water sample.

This will give the exact DO value directly in ppm of the water sample.

Note: The sample needs to be brought to neutral pH before addition of reagents.

Aquaculture Manual

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CONTENTS - AMMONIA COLOUR CARD

WORKING RANGE: 0-10 ppm as NH₄-N Nessler method

MEASURING RANGE: 0, 0.5, 1, 1.5, 2, 3, 4, 5, 6, 8, 10



Test Procedure

1. Take 5 ml water sample in a glass vial.
 2. Add 2 drops of Ammonia Reagent 1 and mix well.
 3. Then add 5 drops of Ammonia Reagent 2, mix well and wait for 3 minutes.
 4. Notice the colour change and compare it with the colour card provided with the kit.
 5. The matching colour corresponds to the Ammonia of the water sample.
- This will give the exact Ammonia value directly of the water sample.

CONTENTS - TOTAL ALKALINITY DROP TEST

WORKING RANGE: 0 – 1000 mg/l (ppm) Acidimetric Method



Test Procedure

1. Take 2 ml water sample in a glass vial.
2. Add 1 drop Total Alkalinity reagent No. 1 and mix well. The colour will change to blue.
3. Add Total Alkalinity reagent No. 2 drop wise until the colour changes from blue to pale yellow.
4. Make sure to count the number of drops added and mix the solution by swirling in the glass vial after each drop.
5. To obtain the Total Alkalinity in water in ppm as CaCO₃ multiply the number of drops that were added in step 3 by factor 40.

This will give the Total Alkalinity value directly of the water sample.

Aquaculture Manual

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CONTENTS - PHOSPHATE COLOUR CARD

WORKING RANGE: 0 – 2.5 mg/l (ppm) as Po₄

Phosphomolybdenum Blue Method

MEASURING RANGE: 0, 0.25, 0.5, 0.75, 1, 1.25, 1.5, 2, 2.5 ppm as PO₄



Test Procedure

1. Take 5ml water sample in a glass vial.
2. Add 4 drops of Phosphate Reagent 1.
3. Add 1 spatula No.1 (0.02gms) provided with the kit of Phosphate Reagent 2 and mix to dissolve.
4. Wait for 5 mins.
5. Compare the colour with the colour card provided with the kit.

This will give the Phosphate value directly as PO₄ in that water sample.

CONTENTS - NITRITE COLOUR CARD

WORKING RANGE: 0 – 0.5 mg/l (ppm) as NO₂ Griess Reaction

MEASURING RANGE: 0, 0.025, 0.05, 0.075, 0.1, 0.2, 0.3, 0.4, 0.5 ppm



Test Procedure

1. Take 5 ml water sample in a glass vial.
2. Sequentially add 1 drop Nitrite Reagent 1, 1 drop Nitrite Reagent 2, 1 levelled spoon of Spatula No. 1 (0.03gms) provided with the kit of Nitrite Reagent 3 and finally add 1 drop Nitrite Reagent 4, mix well.
3. Wait for 2 mins.
4. Compare the colour with the colour card provided with the kit.

This will give the Nitrite value directly in mg/l (ppm) as NO₂ in that water sample.

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