



NURTURING GREEN AQUACULTURE IN MYANMAR

# GUIDELINES FOR WATER QUALITY TESTING IN AQUACULTURE PONDS

PREPARED BY INTERNATIONAL COLLABORATING CENTRE FOR AQUACULTURE AND FISHERIES SUSTAINABILITY



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Photos by: ICAFIS and Mercy Corps





# 1. pH TEST

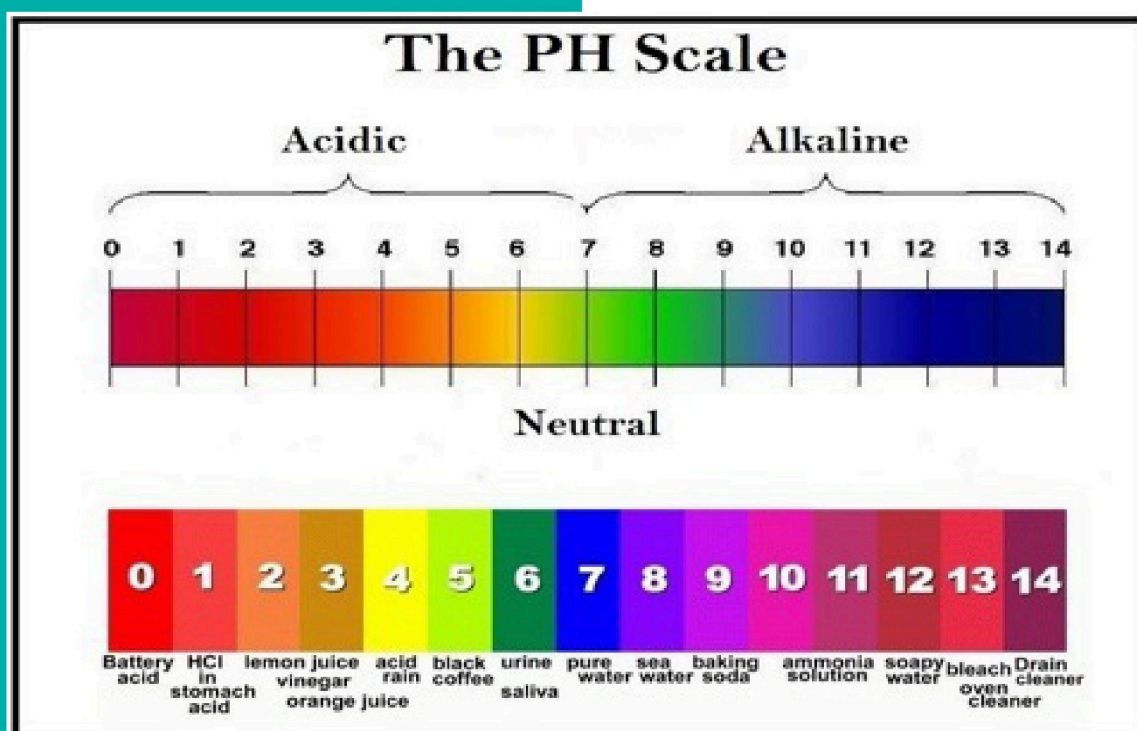
(used Sera pH Test Kit – Germany)

## 1.1.Application :

Test pH in salt and fresh water environments.

## 1.2. Using :

- Clean the glass vial with the water sample in the tank to be tested, then fill the jar with 5ml of the water sample from the aquarium. Dry the outside of the bottle.
- Shake the reagent bottle well before use. Add 4 drops of reagent to the glass vial containing the water sample to be tested, close the vial cap, shake gently, and then open the cap.
- Compare the test results with the color chart: place the glass vial in the white area of the color chart, compare the test results with the color chart and see the corresponding pH value.
- Clean the inside and outside of the glass vial with tap water before and after each test



The colour scale

## 2. O<sub>2</sub> TEST

(USED SERA O<sub>2</sub> TEST KIT – GERMANY)

DO is considered an important measure of water quality as it is a direct indicator of an aquatic resource's ability to support aquatic life. Each organism has its own DO tolerance range, generally, DO levels below 3 milligrams per liter (mg/L) are of concern and waters with levels below 1 mg/L are considered hypoxic and usually devoid of life.



### 2.1. Application :

Check the oxygen concentration in the water environment.

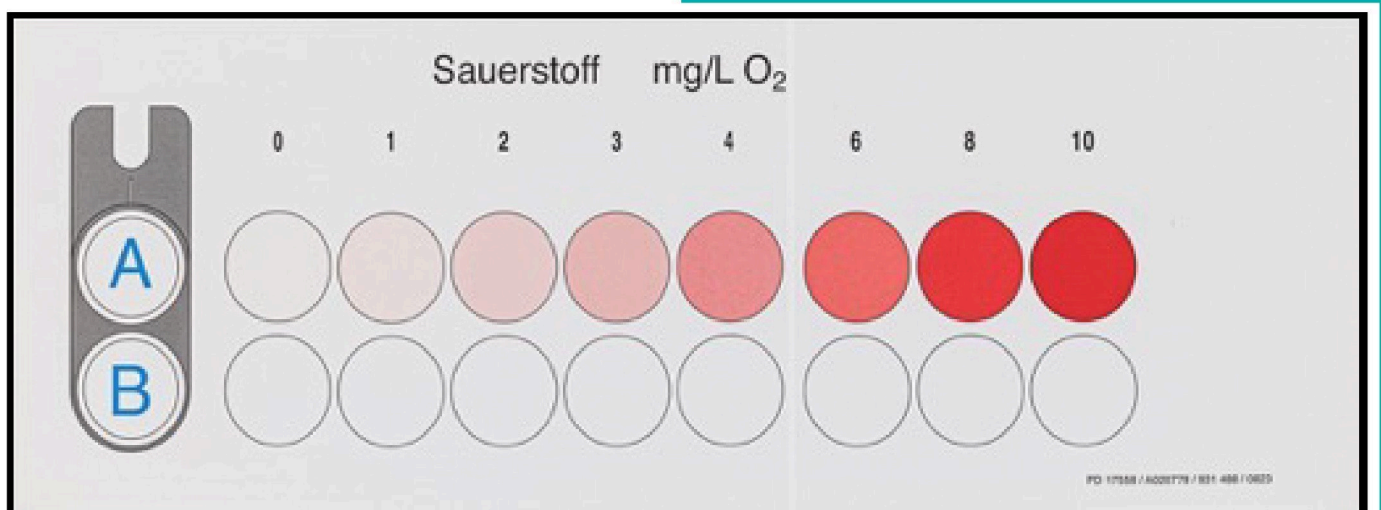


### 2.2. How to Used

- Clean the glass vial several times with the water sample to be tested, then fill the water sample to the edge of the vial. Dry the outside of the bottle.
- Shake the reagent bottle well before use. Add 6 drops of reagent number 1 + 6 drops of reagent number 2 to the vial containing the water sample to be tested, cap the test vial immediately after instillation (make sure there are no air bubbles in the vial), shake well, then open the lid of the jar.

c. Place the test vial on the white background of the colorimetric table, compare the precipitate color of the vial with the color columns and determine the Oxygen concentration (mg/l). Colorimetry should be performed in natural light, avoiding direct sunlight.

d. Clean the inside and outside of the glass vial with tap water before and after each test.



Color comparison chart for Oxygen





Water Dissolved Oxygen Meter

### 3. NO<sub>2</sub> TEST

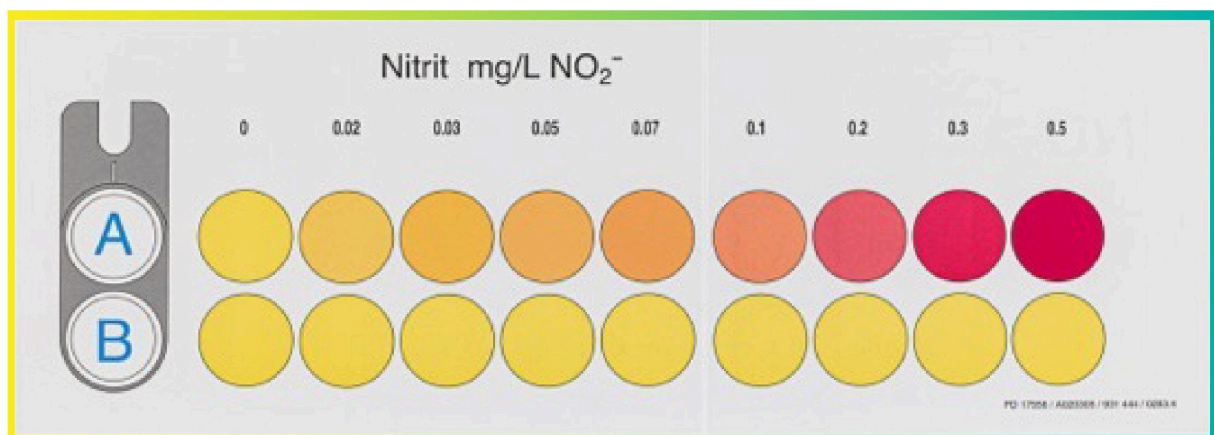
(USE SERA NO<sub>2</sub> TEST KIT – GERMANY)



#### 3.1. Application :

Test the content of Nitrite ( NO<sub>2</sub> ) in the water environment.

1. first . Clean the glass vial with the water sample in the tank to be tested, then fill the jar with 5ml of the aquarium water sample. Dry the outside of the bottle.
2. Shake the reagent bottle well before use. Add 5 drops of Reagent 1 and 5 drops of Reagent 2 to the vial containing the water sample to be tested.
3. Close the vial and shake well.
4. Wait 5 minutes, then compare with the color chart. Color comparison should be performed with natural light, avoiding direct sunlight.



Color comparison chart for Nitrite

## 4. NH<sub>4</sub>/NH<sub>3</sub> TEST

(USE SERA NH<sub>4</sub>/NH<sub>3</sub> TEST KIT – GERMANY)



### 4.1. Amlication :

Check the Ammonia/Amonia content in the water environment.

### 4.2. How to Used

1. first . Clean the glass vial with the aquarium water sample to be tested , then fill the jar with 10ml ( 5ml for salt water ) of the aquarium water sample . Dry the outside of the bottle.

2 . Shake the reagent bottles well before use. Add 6 drops of reagent from reagent bottle No. 1 to the glass vial containing the water sample to be tested, close the cap and shake well.

3. Open the cap, add 6 drops of reagent from reagent bottle 2 to the vial, close the cap and shake well, then open the cap.

4.Add 6 drops of reagent from reagent bottle No. 3 to the vial, close the cap, and shake well.

5 . After 5 minutes, compare the color of the solution with the color chart.

### FRESHWATER AMMONIA (NH<sub>3</sub>/NH<sub>4</sub><sup>+</sup>) COLOUR CARD



Color comparison chart for Ammonia



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