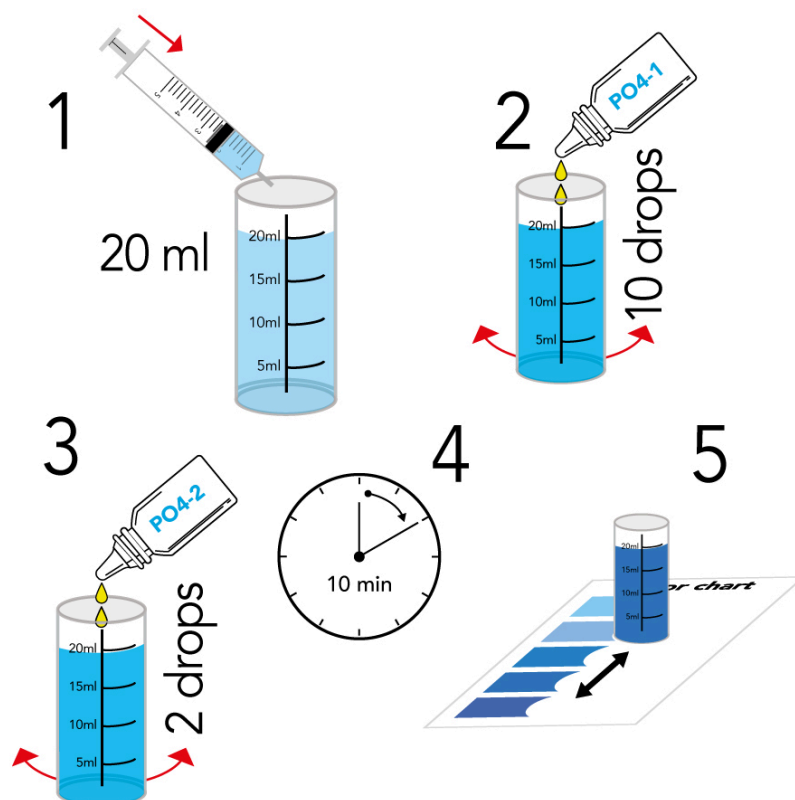




Marine Phosphate Test (PO4)

User manual

EN

Understanding and controlling phosphate levels

Phosphate (chemically abbreviated as PO_4) is one of the waste products produced by fish. Phosphate is not toxic for fish and thus is no direct problem for the health of fish like ammonia or nitrite are.

Indirectly, phosphate can lead to algae problems as phosphate like nitrate is one of the key nutrients for algae and plants. Plants and algae compete with one another for nutrients and unfortunately plants can't always win this competition. In such a case, algae can grow and even explode in numbers. Although phosphate is basically not toxic, it is highly desirable to keep the level low to prevent algae growth.

In a marine tank, algae can overgrow corals to such an extent that the corals suffocate and die. A phosphate value of $>0,8 \text{ mg/l}$ is not recommended for reef tanks and can even be harmful for corals.

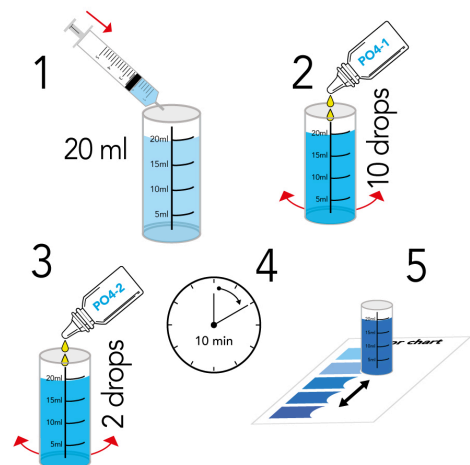
General Guidelines

- Always take care that the test tube is clean before use.
- Clean the tube directly after use.
- Take the volume of the water sample as precisely as possible.
- Keep the drop bottle perfectly vertical during dropping.
- Take care that no air bubbles are included in the drops.

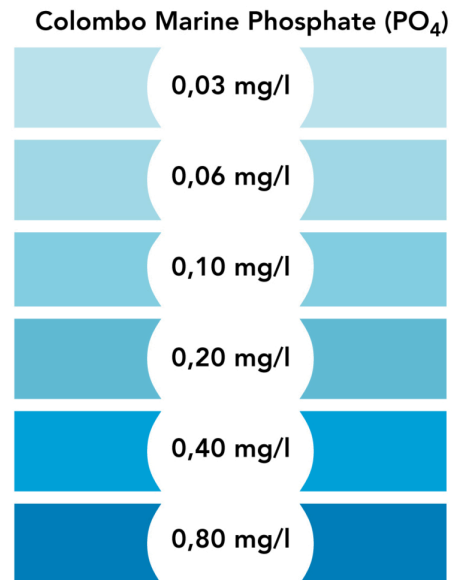
Test procedure:

1. Take a water sample of 20 ml.
2. Add 10 drops of PO4-1 test fluid and shake.
3. Add 2 drops of PO4-2 test fluid and shake again.
PO4-2 is a thick liquid so press firmly on the bottle and then it takes a while before the drop appears.
4. Wait 10 minutes.
5. Determine the PO4-value using the included colour chart.

*The measuring range of our Marine Phosphate Test is 0 – 0.8 mg/l. However the test range can be adjusted to 0 – 1.6 mg/l or 0 – 3.2 mg/l.
See chapter: How to adjust the range of the test.*



For judging the colour of the water sample after adding all the test fluids, proceed as follows: put the test tube on the included colour chart and look through the tube on to the chart from directly above it. Do not look in direct sun light, but at indirect light. Compare the colour of the water sample with the colours on the chart. The closest colour shows the corresponding value. Generally the colours of the sample and on the chart will not be exactly the same, as values in practice will always be between the standard values, and thus a mixture of both consecutive values. Therefore, one should estimate between which colours the sample really lies.



How to adjust the range of the test

The measuring range of our Phosphate test is 0 – 0.8 mg/l. For reef tanks a Phosphate value of >0,8 mg/l is not recommended and can even be harmful for corals. When water with a Phosphate content of > 0.8 mg/l is tested our test will show a deep blue colour, indicating the Phosphate level is 0,8 mg/l or higher.

If you want to determine the Phosphate content in this case you can adjust the range of the test up to 1.6 mg/l or 3.2 mg/l. In order to do this the water sample must be diluted with reverse osmosis water (RO water).



Test the reverse osmosis water (RO water) you want to use to dilute the sample before use!
Make sure the RO water does not contain any Phosphates.

Increasing the test range to 1.6 mg/l.

Take a water sample of 10 ml from your tank and add 10 ml RO water.

Follow the standard instructions to test the Phosphate content.

Compare the colour of the sample with the colour chart and double the value. E.g. 0.6 mg/l becomes 1.2 mg/l; 0.8 mg/l becomes 1.6 mg/l and so on.

Increasing the test range to 3.2 mg/l.

Take a water sample of 5 ml from your tank and add 15 ml RO water.

Follow the standard instructions to test the Phosphate content.

Compare the colour of the sample with the colour chart and quadruple the value. E.g. 0.6 mg/l becomes 2.4 mg/l; 0.8 mg/l becomes 3.2 mg/l and so on.