PO_4 - Test Kit

Pack contents:

- 1 x chemical R2 (5 g for approx. 100 measurements) + measuring spoon
- 1 x chemical R1 (30 ml for approx.100 measurements)
- 1 x color chart
- 1 x yellow comparator
- 2 x test tubes with screw top and septum
- 1 x 20 ml syringe
- 1 x instruction manual (German) (English)

PO_4 Test Instruction Manual

Step 1:

A: Before the analysis, clean the test tubes with distilled H_2O or similar.

Step 2:

B: Test tube 1: + 20 ml water to be analysed for chemicals R1 and R2

C: Test tube 2: + 20 ml purified or clear tap water for color comparison

Step 3:

D: Slowly add 8 drops of chemical R1 to test tube 1 (do not press bottle too hard).

E: Screw cap on test tube 1 and swing gently.

F: Add 1 x measuring spoonfuls of R2, screw on cap and shake for 30 seconds until fully dissolved.

G: Wait 10 minutes after adding R2 before making color comparison.

H: After about 5 minutes, swing the tube again gently so that everything is evenly distributed.

Step 4:

I: Place both test tubes in the comparator and compare the color against the color chart.

J: Read the concentration off the color chart.

K: If the concentration is greater than 0.1 mg/l, turn the comparator through 180 degrees and work on the second row.

Product information :

Measuring range:	0.00 - 0.5 mg/l										
Gradations mg/lPO4:	0.00 - 0.02 - 0.04 - 0.06 - 0.08 - 0.10 - 0.15 - 0.20 - 0.30 - 0.50										
Accuracy:	± 0.01 [mg/l]										
Test set	100 (chemicals are sufficient for 100 analyses)										
Measuring range :	**mg/l PO4**	**0,00**	**0,02**	**0,04**	**0,06**	**0,08**	**0,1**	**0,15**	**0,20**	**0,30**	**0,50**
	mg/l P	**0,00**	**0,006**	**0,013**	**0,02**	**0,026**	**0,032**	**0,049**	**0,060**	**0,094**	**0,16**

Some important rules/informations for faultless analyses:

- Only clear water without inherent coloring and suspended matter/turbidifying agents can be analysed perfectly (e.g. use 20 or 45 µm syringe filters for suspended matter).
- Allow the water to be analysed to cool in a clean, approx. 100 ml vessel before analysis to ambient temperature. This will allow suspended matter containing PO4 to sink to the bottom more readily.
- Alternative: Fill a 20 ml syringe with more than 20 ml and allow to cool. Remove excess quantity before the analysis.
- Measure at 20° +/- 2°C ambient temperature if possible, otherwise volumetric errors will have to be taken into account.
- Yellow colored waters mixed with the blue color of the reaction solution produce a greenish color. Remove the yellowness beforehand (e.g. with ozone).
- Always use clean equipment (risk of carry-over).
- Always measure the test volume carefully.
- Always seal the reaction tubes with the cap and not your fingers. *This is particularly important for smokers because ash residue from the finger could enter the solution and produce a blue coloration.*
- Practice with a color test in advance; it is best to use standard solutions (single or multi-reference).
- The test can also be checked with standard solutions to see whether the chemicals have exceeded their use-by date. Repeat the test twice or three times if the analysis results seem inconclusive.
- It is best to read off the results in daylight. If necessary, move around the room with the colour chart to determine the best light position.
- If there is too much light or direct sunlight, this can strongly influence the results where low concentrations are involved. Practice with different light sources as a precaution.
- Allow enough time for the analysis, do not determine the values simply "in passing".
- Do not attempt an analysis with tired eyes.
- Match the analytical results with the "life", for example, in the aquarium, and do not simply have "blind faith" in the tests (crosscheck).
- Store chemicals in a cool, dry place (preferably in the refrigerator. N.B.: Risk of confusing one analysis for another).

Tip for experienced analysts:

You can slowly start to make a color comparison after about 5 minutes, so you can read off the corresponding concentration immediately after 10 minutes.

WARNING

R22 is hazardous to health if swallowed.
R35 causes serious burns.
R36/37/38 irritate the eyes, respiratory organs and skin.

Irritant (Xn)

Corrosive (C)

SAFETY INSTRUCTIONS

S1/2 Store under lock and key and away from children.
S7 Keep containers closed.
S26 If splashed in the eyes, rinse liberally with water and consult a doctor.
S36/37/39 When working, wear suitable protective clothing, gloves and safety glasses/face mask.
S45 If you have an accident or feel unwell, call a doctor and present these instructions.

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