

Phosphate

Test kit for performing colorimetric tests on phosphate ions in surface water and sewage

Method:

Ammonium molybdate forms with phosphate ions phosphomolybdic acid, which is reduced to phosphomolybdenum blue.

Measurement range:

0.2–5 mg/L PO₄-P

Contents of test kit (*refill pack):

sufficient for 80 tests

- 25 mL PO₄-1*
- 25 mL PO₄-2*
- 2 screw-plug measuring glasses
- 1 slide comparator
- 1 colour chart
- 1 plastic syringe 5 mL
- 1 instructions for use*

Hazard warning:

PO₄-1 contains sulfuric acid 5–15%, PO₄-2 contains sodium disulfite 10–25%.

H318 Causes serious eye damage.

P280sh, P305+351+338, P310 Wear protective gloves/eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor. For further information ask for a safety data sheet.

Instructions for use:

also refer to the pictogram on the back of the color chart

1. Pour a **5 mL water sample** into each of the measuring glasses using the plastic syringe.
Place a measuring glass on position A in the comparator.

Only add the reagent to measuring glass B.

2. Add **6 drops of PO₄-1**, seal the glass and mix.
3. Add **6 drops of PO₄-2**, seal the glass and mix.
4. Open the glass after **10 min** and place it on position B in the comparator.
5. Slide the comparator until the colors match in the inspection hole on top. Check the measurement reading in the recess on the comparator reed. Mid-values can be estimated.
6. After use, rinse out both measuring glasses thoroughly and seal them.

The reagents can be used for the **photometric evaluation** with photometer PF-12/ PF-12^{Plus}.

This technique can be used also for analyzing sea water.

Disposing of the samples:

The used analysis specimens can be flushed down the drain with tap water and channelled off to the local sewage treatment works.

Interferences:

Larger amounts of oxidizing reagents inhibit formation of the blue color complex and have to be destroyed. H₂S interferes in concentrations above 2 mg/L, but can be expelled after acidification of the water sample. Heavy metals in excess of 10 mg/L can slightly decrease the intensity of the color (vanadium causes an increase in color). Silica interferes in excess of 10 mg/L Si.

Conversion table:

mg/L PO ₄ -P	mg/L PO ₄ ³⁻	mg/L P ₂ O ₅
0.2	0.6	0.5
0.3	0.9	0.7
0.5	1.5	1.1
0.7	2.1	1.6
1	3	2
2	6	5
3	9	7
5	15	12

Storage:

Store the test kit in a cool (< 25 °C) and dry place.