visocolor® HE Phosphate

High sensitivity test kit for the determination in the range of 0.05–1.0 mg/L P

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Method:

Phosphomolybdenum blue

Contents of test kit (*refill pack):

sufficient for 300 tests

100 mL P-1*	2 round glass tubes with screw caps
100 mL P-2*	1 comparator block
	1 color comparison disc Phosphate

Hazard warning:

P-1 contains sulfuric acid 15–30 %, P-2 contains sodium disulfite 10–25 %.
H314 Causes severe skin burns and eye damage.
P260, P280, P301+330+331, P303+361+353, P304+340, P305+351+338 Do not breathe vapors. Wear protective gloves / eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower. IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. For further information ask for a safety data sheet.

Procedure:

1. Place comparator block into the position provided in the box (see illustration).
2. Insert color comparison disc.
3. Open both round glass tubes, rinse several times with the water sample and fill up to the mark with the sample.
4. Add **6 drops P-1** to the right glass tube, close and mix.
5. Add **6 drops P-2** to the right glass tube, close and mix. Wait **10 min**.
6. Reading: Turn color disc until both colors match by transmitted light from above. Read test results from the mark on the front side of the comparator. Intermediate values can be estimated.
7. After use clean both round glass tubes thoroughly and close.

The method can be applied also for the analysis of 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:

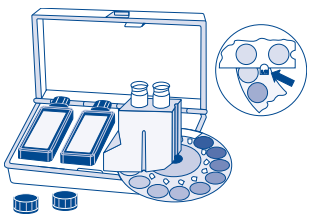
Oxidizing agents in larger amounts inhibit formation of the blue color complex. They must be destroyed prior to the determination.

The following ions will not interfere:
≤ 1 mg/L Si(IV)
≤ 2 mg/L H_2S
≤ 10 mg/L heavy metals

The temperature of the water sample should be between 18 and 30 °C. Outside this range the rate of the reaction decreases by finding less phosphate than actually present.

Conversion table:

mg/L P	mg/L PO_4^{3-}	mg/L P_2O_5	mmol/m³
0.05	0.15	0.11	1.6
0.10	0.31	0.23	3.2
0.15	0.46	0.34	4.8
0.20	0.61	0.46	6.5
0.3	0.9	0.7	10
0.4	1.2	0.9	13
0.6	1.8	1.4	19
0.8	2.5	1.8	26
1.0	3.1	2.3	32



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