KYORITSU **PACK TEST** ION SELECTIVE **INSTRUCTIONS**

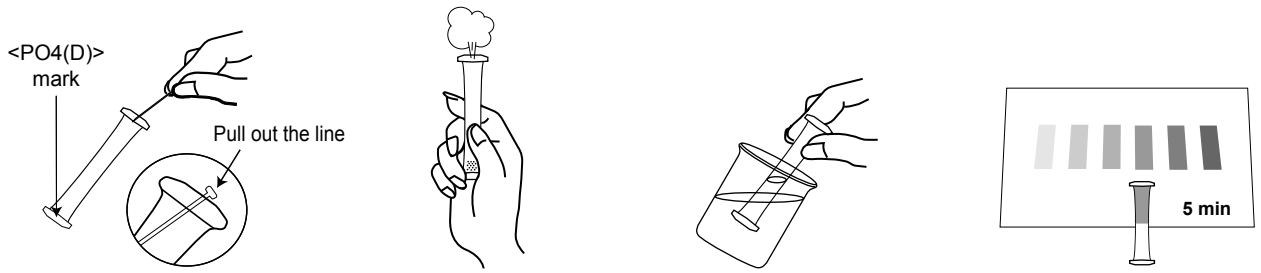
Phosphate(Low range)

<Phosphate phosphorus>

Model WAK-PO4(D)

Enzymatic Method
Main reagents: Enzyme and 4-Aminoantipyrine
Range: 0.05 - 2 mg PO_4^{3-}/L (ppm)
0.02 - 1 mg PO_4^{3-} - P/L (ppm)

How to use



(1) Remove the line to clear the aperture from the top of the tube.

(2) Press the sides of the tube to expel approximately half of volume. Maintain pressed.

(3) Immerse the tube in the sample. Release the sides to fill the tube up to the half. Shake the tube lightly a few times.

(4) After 5 minutes, put the tube on the color chart as shown and compare with the standard colors.

How to read the test

After the reaction time, compare the color of the tube with the standard colors. The nearest color indicates the measured value of the sample. A color between two standard colors indicates a value between the two standard values. According to your need, the Phosphate-phosphorus concentration can be determined on the back of the color chart.

Care in handling of Pack Test before and after use

Keep PACK TEST out of the reach of children.
Keep PACK TEST in a cool, dry and dark place.
PACK TEST should be thrown with burnable garbage. Conform to the legislation of waste management.
Use a package as soon as possible after opening.
The PACK TEST tube must not be opened before and after use.
The reagent is sensitive to heat. The temperature should not be higher than 30°C. The color will be attenuated if the PackTest is kept at a temperature higher than 35°C for a long time.

First Aid Measures

Eye Contact ⟶ Immediately rinse eyes with water for at least 15 minutes. Consult a physician.
Ingestion ⟶ Drink a large glass of milk or water and vomit.
Skin contact ⟶ Flush skin with water.
In case of doubt, consult a physician.

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PACK TEST Phosphate (low range)

Features

The Phosphate (low range) PACK TEST is based on an enzimatic method and does not use strong acid. Low phosphate concentration can be easily measured from samples containing relatively few coexisting substances like river water, underground water, drinking water and so on.
This PACK TEST is not suitable for the analysis of samples collected from water purifier tank, sewage, industrial waste water or which could contain many coexisting substances. In this case, we recommend to use the Phosphate PACK TEST (ref: WAK-PO4, range :0.2 - 10 mg PO_4^{3-}/L).

Cautions

1. The Phosphate (low range) PACK TEST can measure only phosphate ion. Hydrolytic phosphorus or Total-phosphorus can not be measured directly and require a pretreatment.
2. This Pack Test allows to measure both phosphate ion (PO_4^{3-}) and phosphate-phosphorus (PO_4^{3-}-P).
3. The normal pH range is 6 - 9. If necessary, adjust the pH with diluted sulfuric acid or sodium hydroxide solution.
4. Ensure that PACK TEST tube is filled up to the half.
5. Partially undissolved reagent will not affect the measurement.
6. Keep sample temperature in the range 20°C - 40°C. Lower temperature necessitates longer reaction time. (For example: at 10°C, responce time is 20 minutes)
7. Read the test under a daylight type lamp.
8. Put the line back into the aperture after use to prevent reagent spilt.

The influences of coexisting substances

Standard colors were determined from standard solutions. However, coexisting ions can modify reaction color. The list below reports ion concentrations under which ones interferences are insignificant:
≤ 1000 mg/L : Ba^{2+}, Ca^{2+}, Cl^-, F^-, I^-, K^+, Na^+, NH_4^+, NO_2^-, NO_3^-
≤ 500 mg/L : B^{3+}, Phenol
≤ 200 mg/L : Zn^{2+}
≤ 50 mg/L : Cu^{2+}, Mg^{2+}, Ni^{2+}, SO_4^{2-}
≤ 10 mg/L : Al^{3+}, Cr^{3+}, Cr^{6+}, Mn^{2+}
≤ 5 mg/L : Fe^{3+}
≤ 1 mg/L : CN^-
sub-ppm level : Fe^{2+}, Residual Chlorine

The Phosphate (low range) PACK TEST is suitable for sea water samples with a reaction time extended to 15 - 20 minutes.
Oxidative substances as residual chlorine or hydrogen peroxide can cause a colouring or intensify the color development. For example, 1 mg/L of residual chlorine causes the equivalent color development of 0.15 mg/L of phosphate.
Reductive substances can reduce the color development.