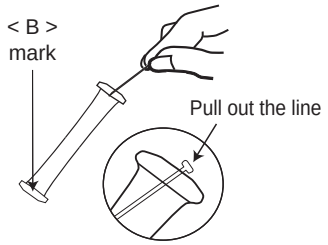
KYORITSU **PACK TEST** ION SELECTIVE **INSTRUCTIONS**

Boron

Model WAK-B

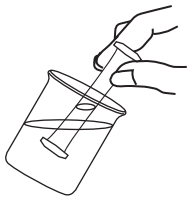
Azomethine H color comparison Method
Main reagent: Azomethine H
Range: B 0-10 mg/L (ppm)

How to use

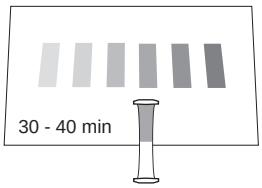


(1) Remove the line to clear the aperture from the top of the tube.

(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 30-40 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.

Care in handling of PACKTEST before and after use

Keep PACKTEST out of the reach of children.
Keep PACKTEST in a cool, dry and dark place.
PACKTEST should be thrown with burnable garbage. Conform to the legislation of waste management.
Use a package as soon as possible after opening.
The PACKTEST tube must not be opened before and after use.

First Aid Measures

Eye contact → Immediately rinse eyes with water for at least 15 minutes. Consult a physician.
Skin contact → Immediately flush skin with water.
Ingestion → Immediately rinse mouth. Consult a physician.

In case of doubt, consult a physician.

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PACKTEST Boron

Method

The Boron PACKTEST uses the Azomethine H color comparison method. This allows to measure easly borate or borax ion concentration in a wide range of samples like industrial waste water, environmental water etc.

Cautions

1. The Boron PACKTEST can measure ion of boric acid and convert to boron.
2. The normal pH range is 5 - 9. If necessary, adjust the pH with diluted sulfuric acid or sodium hydroxide solution.
3. The reaction color becomes stronger than 2mg/L of standard color when the borate standard solution is 1000mg/L.
   A sample water which is expected high concentration, should be diluted in advance.
4. Ensure that the PACKTEST tube is filled up to the half.
5. Partially undissolved reagent will not affect the measurement.
6. Keep sample temperature in the range 15 - 25°C. Lower temperature necessitates longer reaction time.
7. The reaction kinetic depends also on Boron ion concentatrion:
   0 mg B/L ・・・ The color fade slowly after about 15 min.
   2 mg B/L ・・・ The yellow color is light at first and becomes deeper with time.
   10 mg B/L ・・・ The yellow color becomes deeper continuously.
8. Read the test under a daylight type lamp.
9. Put the line back into the aperture after using to prevent reagent spilt.

Interferences

Standard colors were determined from standard solutions. However, coexisting substances will cause inaccurate results. The list below reports substances concentrations under which ones interferences are insignificant:

≤ 1000 mg/L : As^{3+}, Ba^{2+}, Ca^{2+}, Cl^{-}, F^{-}, I^{-}, K^{+}, Mg^{2+}, Na^{+}, NH_4^{+}, NO_2^{-}, NO_3^{-}, PO_4^{3-}
SCN^{-}, SO_4^{2-}, Phenol, Anionic Surfactant
≤ 500 mg/L : Cd^{2+}, Mn^{2+}, Pb^{2+}, Zn^{2+}
≤ 250 mg/L : Ni^{2+}
≤ 100 mg/L : Cr^{3+}, Fe^{2+}, Fe^{3+}, Residual chlorine
≤ 50 mg/L : Al^{3+}, Co^{2+}, Cr^{6+}
≤ 25 mg/L : Cu^{2+}
≤ 10 mg/L : CN^{-}, Sn^{2+}
≤ 5 mg/L : Pd^{2+}
≤ 2 mg/L : Ag^{+}

The Boron PACKTEST is suitable for sea water samples, but , commonly sea water include boron (≈ 4 - 5 mg/L).