KYORITSU **PACKTEST** INSTRUCTIONS

Iron

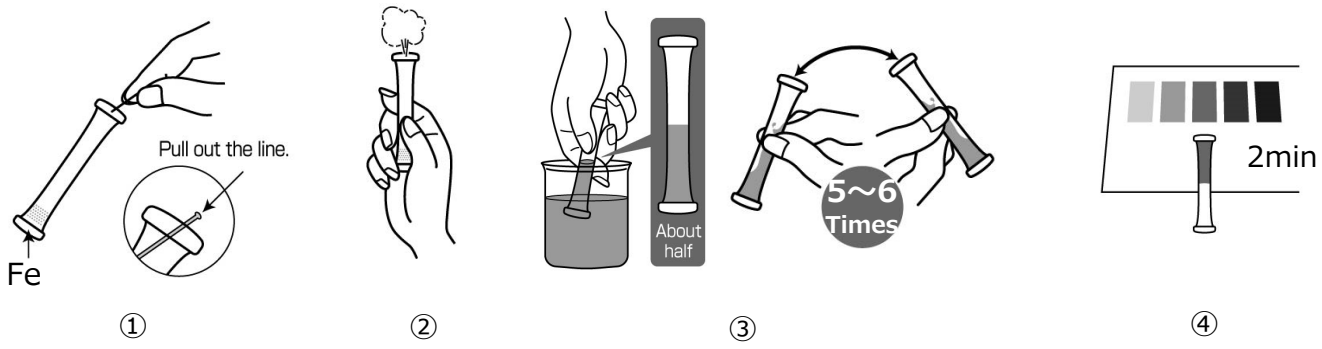
Reduction and *o*-Phenanthroline Visual Colorimetric Method

Model: WAK-Fe

Main Reagent: *o*-Phenanthroline

Measuring Range: 0.2 - 10 mg/L (ppm)

How to Use



① Remove the colored line at the top of the tube to clear the aperture.

② Press the tube's side wall to expel air and hold the tube.

③ Immerse the aperture of the tube into the sample, release the finger to fill up the tube halfway. Invert the tube back and forth lightly for 5-6 times.

④ After 2min, place the tube on the provided Color Sheet as shown to compare the color.

How to Read the Result

After the reaction time, compare the color of the tube with Standard Color. The nearest color indicates the concentration value of the analyte in your sample. A color between two standard colors indicate the value between them.

Handling of PACKTEST Before and After Use

First Aid

Eye Contact → Immediately flush eyes with plenty of water.
Skin/Cloth Contact → Immediately flush contacted area with water.
Ingestion → Immediately rinse mouth.

If swallowed the content or any symptom appears, seek medical advice immediately.
Please refer to SDS for further information.

Storage

Keep unused PACKTEST tubes in the provided preserving bag after opening the laminated package and use them as soon as possible. Depending on the storage condition, the reagent may deteriorate in several days especially under the hot and humid weather.

Disposal

For business use, please follow in the manner consistent with relevant laws and regulations. Otherwise, the tube can be disposed as combustible waste.

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PACKTEST Iron

Caution

1. This product allows to measure Iron ion (Fe^{2+}, Fe^{3+} = dissolved iron) in the sample. When measuring total iron including suspended iron such as rusty water, please follow “Method for measuring total iron” stated below.
2. Iron chelated with EDTA used in hydroponics can also be measured.
3. The optimum pH upon reaction will be around 6. If the pH of the sample exceeds 2-9, please neutralize with dilute sodium hydroxide solution or dilute sulfuric acid prior to measurement.
4. An iron standard solution of 1000 mg/L develops color stronger than 10 on the Standard Color. When the value is expected to be high, please dilute the sample prior to use.
5. Keep the sample temperature between 15-40℃. If the sample temperature is low, it requires longer reaction time.
6. Ensure that the PACKTEST tube is filled up to half.
7. Partially undissolved reagent will not affect the measurement.
8. When comparing to the Standard Color, please be sure to read under the daylight. It may be difficult to determine the color under the direct sunlight, certain florescent lights, mercury lamp or LED.
9. You can put the line back into the aperture to seal. This will avoid possibility of spilling the content of the tube.

Method for Measuring Total Iron

Reduce the pH of the sample to less than 2 with dilute sulfuric acid and bring to boil. After cooling down to room temperature, adjust pH to 2-4 before measuring.
When measuring a sample with low buffering capacity, such as tap water, add 2 to 3 drops (0.1 to 0.2 mL) of 1 mol/L sulfuric acid to 20mL of the sample and heat. After cooling down, the sample can be measured without neutralization.

Interference

Standard Color is prepared based on the standard solution. If there are some coexisting substances that may cause interference, please compare the result with official method or standard addition method for verification. Below is the list of interference data for on color development when adding each of the single substances to the standard solution.

≤1000mg/L	will not affect	… B(III), Ca^{2+}, Cl^-, F^-, I^-, K^+, Mg^{2+}, Mo(VI), Na^+, NH_4^+, NO_2^-,NO_3^-, PO_4^{3-}, SO_4^{2-}, Anionic Surfactant, Phenol, Formaldehyde
≤500mg/L	〃	… Al^{3+}, Ba^{2+}
≤200mg/L	〃	… Cr^{3+}, Mn^{2+}
≤100mg/L	〃	… Residual Chlorine
≤50mg/L	〃	… Cr(VI)
≤10mg/L	〃	… Ag^+, CN^-
≤5mg/L	〃	… Co^{2+}, Cu^{2+}, Ni^{2+}, Zn^{2+}

Seawater does not affect the result.

Oxidizing substances may affect the result.

【Caution】

- This product is made for analyzing water quality purpose only. Do not use for any other purpose.
- This product contains small amount of chemicals. Please read instruction manual, GHS labels, SDS, and other necessary document thoroughly prior to use.
- Please keep this information handy for future reference.

<Safety>
- Please wash your hands thoroughly before and after the test. Do not inhale the chemical reagents.
- It is highly recommended to wear protective gloves, eye protection, and mask upon using this product.
- Avoid release chemical reagents or waste solution to the environment.

<Storage>
- Please keep this product out of reach of children. Keep it in the dry and dark place at room temperature.

<Other>
- Please check the expiration date shown on the box, and make sure to use within the date.
- Specifications are subject to change without notice.

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