



KYORITSU PACKTEST INSTRUCTIONS

Residual Chlorine (Free)

Model: WAK-CIO-DP

DPD Visual Colorimetric Method

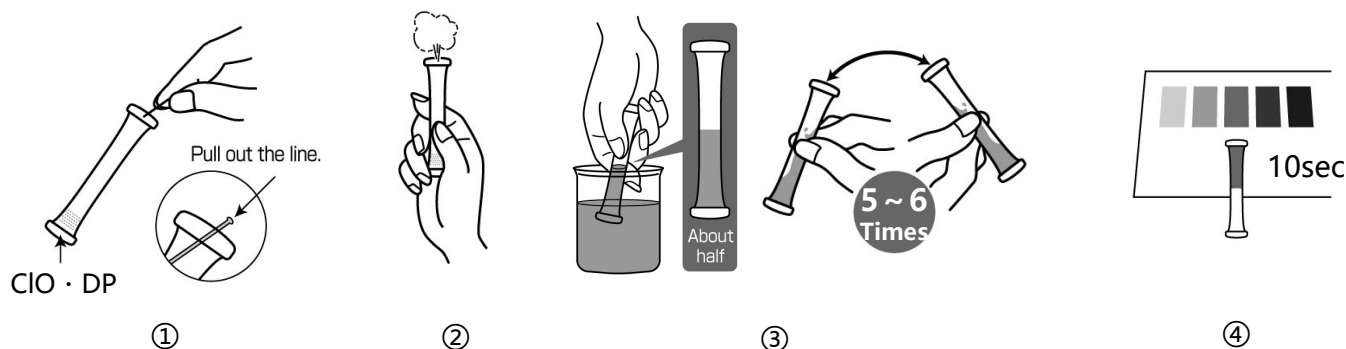
Main Reagent:

N,N-diethyl-*p*-phenylenediamine sulfate

Measuring Range:

0.1 - 5mg/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 10sec, 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.

PACKTEST Residual Chlorine

Caution

1. Chloride ion is not measurable with this method. Please use PACKTEST Chloride (200) (Model: WAK-Cl(200)), PACKTEST Chloride (300) (Model: WAK-Cl(300)) or PACKTEST Chloride (Low Range) (Model: WAK-Cl(D)).
2. When high concentration of residual chlorine, like 100mg/L, is present, it becomes dark red. The color fades when concentration is even higher and becomes light yellow or colorless at 500mg/L or higher. When the value is expected to be high, please dilute the sample prior to use.
3. When the color becomes darker 1min after taking the sample into the tube, a part of combined chlorine residual has reacted and caused to develop color. If you leave the reacted PACKTEST tube for longer time, the color becomes stronger due to dissolved oxygen as well.
4. The optimum pH upon reaction will be around 7. If the pH of the sample exceeds 5-9, please neutralize with dilute sodium hydroxide solution or dilute sulfuric acid prior to measurement.
5. Keep the sample temperature between 15-40°C. When sample temperature is lower, it may take 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.

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 a color development when adding each of the single substance to the standard solution.

≤1000mg/L	will not affect	...B(III), Ba ²⁺ , Ca ²⁺ , Cd ²⁺ , Cl ⁻ , F ⁻ , K ⁺ , Mg ²⁺ , Mn ²⁺ , Mo(VI), Na ⁺ , PO ₄ ³⁻ , SO ₄ ²⁻ , Zn ²⁺
≤500mg/L	“	...Ni ²⁺ , NO ₃ ⁻
≤100mg/L	“	...Co ²⁺
≤50mg/L	“	...Cr ³⁺ , Fe ³⁺ , Phenol
≤5mg/L	“	...Al ³⁺ , Cu ²⁺
Any Level	will affect	...Ag ⁺ , Cr(VI), NH ₄ ⁺

Reducing substances, like CN⁻, Fe²⁺, NO²⁻, consume residual chlorine. Ag⁺, Cr(VI), Fe³⁺ and other oxidizing substances cause for positive false reading. NH₄⁺ reacts with free chlorine residual to become combined chlorine residual causes free chlorine residual to decrease, but the value of total chlorine residual remains unchanged.

When I⁻ coexist, combined chlorine residual will be measured as well.
Seawater does not 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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