

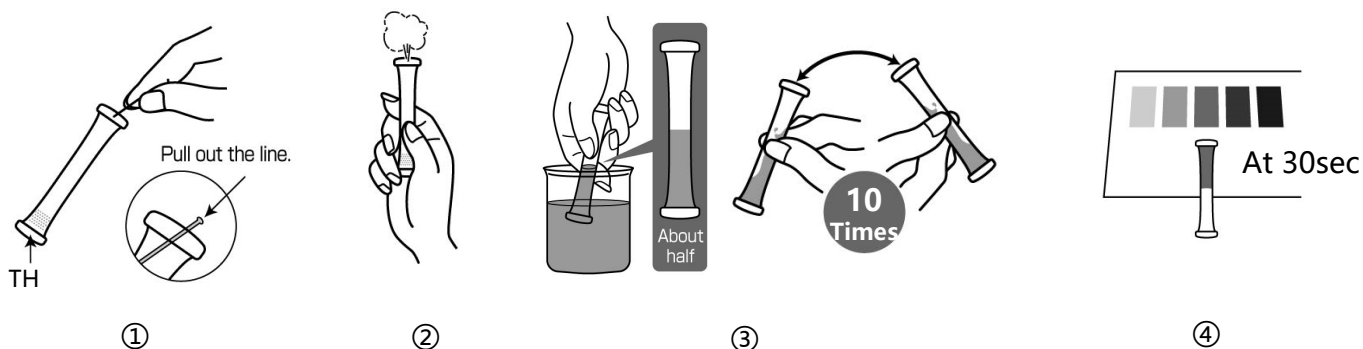
Total Hardness

Model : WAK-TH

PC (Phthalein Complexone) Visual Colorimetric Method

Measuring Range: CaCO_3 0 - 200mg/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 10 times.
- ④ At 30sec, place the tube on the provided Standard Color 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

After opening the laminated package and use them as soon as possible.
 Reagents are relatively heat-sensitive. Please avoid high temperature and humidity.

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 Total Hardness

Caution

1. This product measures dissolved calcium ion (Ca^{2+}) and magnesium ion (Mg^{2+}) in sample water.
2. The result indicates Total Hardness, which is the sum of calcium hardness and magnesium hardness.
Total Hardness = Calcium Hardness + Magnesium Hardness
3. The optimum pH upon reaction will be around 10. If the pH of the sample exceeds 6-10, please neutralize with dilute sodium hydroxide solution or dilute sulfuric acid prior to measurement.
4. A standard solution of 1000mg/L, it develops a color stronger than 200 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°C. If the sample temperature is low, it requires longer reaction time.
6. Ensure that the PACKTEST tube is filled up to half.
7. Colorimetry should be performed immediately at 30 seconds. Especially when interfering substances coexist, please strictly adhere to stated reaction time.
8. Partially undissolved reagent will not affect the measurement.
9. 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.
10. Reagent is colored light purple already when it is dry, but it will not affect the measurement.
11. 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.

$\leq 1000\text{mg/L}$	will not affect	...	Ba^{2+} , Cl^- , CN^- , F^- , I^- , K^+ , Mo(VI) , Na^+ , NH_4^+ , NO_2^- , NO_3^- , PO_4^{3-} , SO_4^{2-} , Anionic surfactant, Phenol
$\leq 100\text{mg/L}$	"	...	B(III)
$\leq 50\text{mg/L}$	"	...	EDTA
$\leq 5\text{mg/L}$	"	...	Al^{3+}
$\leq 1\text{mg/L}$	"	...	Co^{2+} , Cr(VI) , Mn^{2+} , Ni^{2+} , Residual Chlorine
Any Level	will affect	...	Cr^{3+} , Cu^{2+} , Fe^{2+} , Fe^{3+} , Zn^{2+}

Not suitable for measuring the seawater.

【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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