



PACKTEST

Total Hardness (TH)

ชุดทดสอบ
ความกระด้างของน้ำ



1) PACKTEST Total Hardness (TH)

Model : WAK-TH

This product allows to measure Total Hardness (Calcium Hardness plus Magnesium Hardness) concentration easily.

PC (Phthalein Complexone) visual Colorimetric Method

Main Reagent: Phthalein Complexone

Measuring Range: CaCO_3 0 – 200 mg/L (ppm)

Specification

Measuring Method	PC Visual Colorimetric Method
Indicator	0, 10, 20, 50, 100, 200 mg/L
Measuring Time	30 sec.
Use for Seawater	No
Package Size	165L x 110W x 65H mm
Package Weight	approx. 140 g



Quantity (pcs./box) = 50

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- 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.

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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/mL, 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.

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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	… 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
≤100mg/L	”	… B(III)
≤50mg/L	”	… EDTA
≤5mg/L	”	… Al ³⁺
≤1mg/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⁺

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