



# Nitrate

## (High Range)

Model: WAK-NO<sub>3</sub> (C)

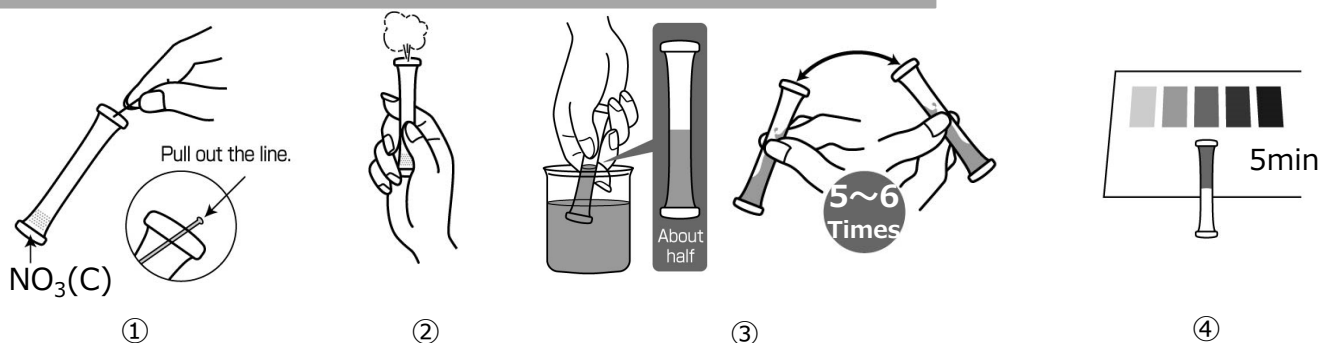
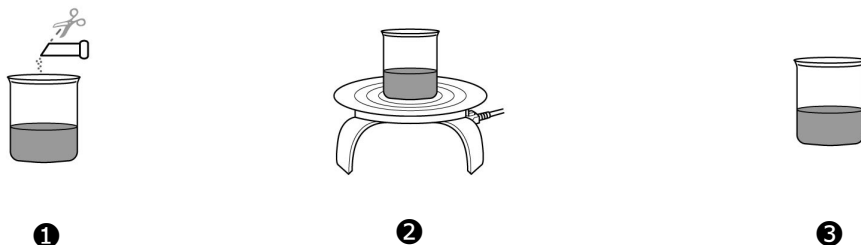
### Griess Romijin Method after Zinc Reduction

Main Reagent: Zinc, Sulfanilic acid  
 Measuring Range: NO<sub>3</sub><sup>-</sup> 90 - 4500 mg/L (ppm)  
 NO<sub>3</sub><sup>-</sup>-N 20 - 1000 mg/L (ppm)

### How to Use

\*Be sure to check the presence of nitrite by using PACKTEST Nitrite.

When Nitrite is less than 1mg/L: Perform nitrate measurement w/o pretreatment.

When Nitrite coexist  $\geq 1$  -  $< 10$ mg/L: Remove nitrite by pretreatment agent prior to nitrate measurement.\*Nitrate cannot be measured if nitrite coexist  $\geq 10$ mg/L.

- 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 5min, place the tube on the provided Color Sheet as shown to compare the color.
- ① Take 30 mL of sample water in a beaker and add Pretreatment Reagent for Nitrate Measurement (model: NO3-RA) which is sold separately.
  - ② Bring to boil for about 2 min.
  - ③ Cool down to room temperature. If the sample volume decreases, add pure water to make it 30mL. Follow procedure from ① to measure nitrate.

### 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 Nitrate (High Range)

### Caution

1. This product allows to measure both nitrate ion ( $\text{NO}_3^-$ ) and nitrate-nitrogen ( $\text{NO}_3\text{-N}$ ).
2. The optimum pH upon reaction will be around 3. If the pH of the sample exceeds 2-9, please neutralize with dilute sodium hydroxide solution or dilute sulfuric acid prior to measurement.
3. A nitrate standard solution of 10000 mg/L develops a color similar or darker than 4500 on the Standard Color. When the value is expected to be high, please dilute the sample prior to use.
4. Keep the sample temperature between 15-30°C. If the sample temperature is low, it requires longer reaction time.
5. Ensure that the PACKTEST tube is filled up to half.
6. Mix with reagent immediately after drawing the sample into the tube. If taking sometimes before mixing with reagent, it may develop false coloring.
7. Please be sure to invert the tube up and down slowly to remove air bubble before comparing with Standard Color. If leaving the air bubble inside the tube may result in false reading.
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. 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 substances to the standard solution.

≤1000mg/L	will not affect	... B(III), Ba <sup>2+</sup> , Ca <sup>2+</sup> , Cl <sup>-</sup> , CN <sup>-</sup> , F <sup>-</sup> , I <sup>-</sup> , K <sup>+</sup> , Mg <sup>2+</sup> , Na <sup>+</sup> , NH <sub>4</sub> <sup>+</sup> , PO <sub>4</sub> <sup>3-</sup> , SO <sub>3</sub> <sup>2-</sup> , SO <sub>4</sub> <sup>2-</sup> , Zn <sup>2+</sup> , Phenol
≤500mg/L	"	... Mn <sup>2+</sup>
≤100mg/L	"	... Al <sup>3+</sup>
≤50mg/L	"	... Anionic Surfactant
≤20mg/L	"	... Cr <sup>3+</sup> , Mo(VI)
≤10mg/L	"	... Residual Chlorine
≤1mg/L	"	... Co <sup>2+</sup> , Cr(VI), Fe <sup>2+</sup> , Fe <sup>3+</sup> , Ni <sup>2+</sup> , NO <sub>2</sub> <sup>-</sup> (see below)
At Any Level	will affect	... Cu <sup>2+</sup>

Seawater does not affect the result.  
Oxidizing or reducing substances may interfere the result.

### Caution when Nitrite Coexist

When nitrite ion ( $\text{NO}_2^-$ ) coexists with nitrate ion ( $\text{NO}_3^-$ ), it develops color stronger to cause positive false reading, so please be sure to measure and check the nitrite level. PACKTEST Nitrite (model: WAK-NO2) is recommended.

## **【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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