KYORITSU **PACKTEST** INSTRUCTIONS

Free Cyanide

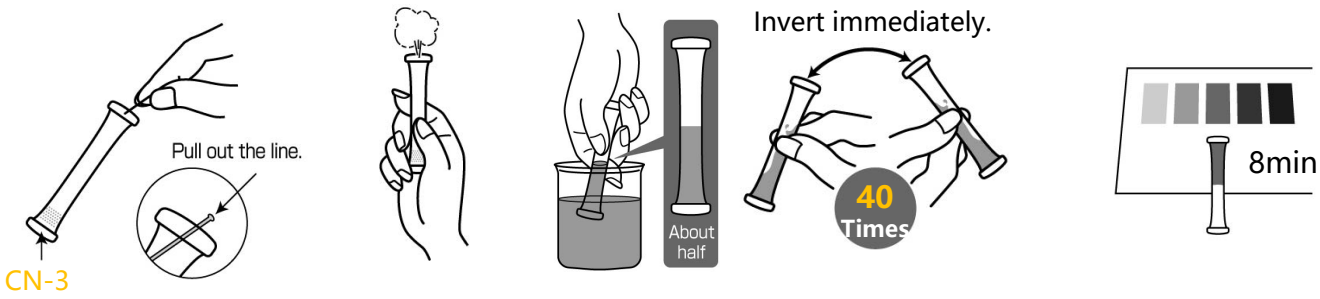
Model: WAK-CN-3

4-Pyridinecarboxylic Acid Visual Colorimetric Method
Measuring Range: 0.02 - 2mg/L (ppm)

Product Update: Specifications have been improved through single- step operation.

Model: WAK-CN-**3** Printed on Laminated Package: CN-**3** Mark on the Tube: CN-**3**
Please note the changes mentioned above as part of the product update.

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. Immediately invert the tube back and forth lightly for **40** times to dissolve the reagent.
④ After 8min, 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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Caution

1. This product measures Free Cyanide (CN^- and CNCl) in the sample and not Total Cyanide.
2. When Free Cyanide is present, the color turns light red then change to blue as shown on the Standard Color.
3. pH at reaction will be 7. pH adjustment is not necessary if the sample is already conditioned to pH12 with sodium hydroxide. If the pH of the sample exceeds 7—12, it needs to be neutralized with diluted sulfuric acid or diluted sodium hydroxide solution prior to use.
4. When concentration value of Free Cyanide standard solution is 1000mg/L, the color will turn darker than"2"on the Standard Color. When the concentration value is expected to be very high, please dilute the sample prior to measurement.
5. Keep temperature of the sample between 15—40℃.
6. When comparing to the Standard Color, please be sure to read under the daylight or equivalent light source. It may be difficult to determine the closest color under the direct sunlight, certain florescent lights, mercury lamp, or LED.
7. You can put the line back into the tube 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+}, Cl^-, F^-, K^+, Mg^{2+}, Mn^{2+}, Mo(VI), Na^+, NH_4^+, NO_2^-, NO_3^-, PO_4^{3-}, SO_4^{2-}, Zn^{2+}, Anionic Surfactant, Non-ionic Surfactant, Cationic Surfactant, EDTA, Glucose, Silica, Phenol
≤500mg/L	〃	…Al^{3+}, SO_3^{2-}, Ascorbic Acid
≤100mg/L	〃	…Br^-
≤20mg/L	〃	…Cr^{3+}, Fe^{2+}, Fe^{3+}, I^-
≤5mg/L	〃	…Residual Chlorine
≤2mg/L	〃	…Formaldehyde
≤1mg/L	〃	…Co^{2+}, Cu^{2+}
Any Level	will affect	…Ni^{2+}, SCN^-

Not suitable for measuring the seawater.
(Sample will be measurable twofold dilution or more with pure water.)
Ethanol under 10% (w/w) will not affect the result.
When there is intereference, the developed color will be weaker in most cases.
Oxidizing and reducing substances may affect the result.
Hypochlorite decomposes cyanide.
The complex between Cyanide and metals may not be detected as Free Cyanide.
When the presence of interfering substances is expected, pretreatment procedure, like distillation or aeration method is required prior to the measurement.