



KYORITSU

PACKTEST

INSTRUCTIONS

Free Cyanide

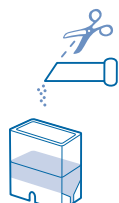
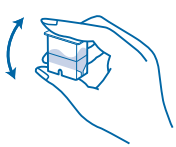
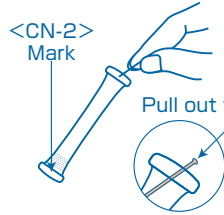


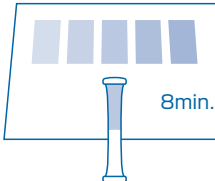
Model WAK-CN-2

4-Pyridinecarboxylic Acid Visual Colorimetric Method

Main reagent: 4-Pyridinecarboxylic acid

Range: CN^- 0.02 – 2 mg/L (ppm)

How to Use

- 
- 
- 
- 
- 
- 
- ① Fill the cell (PACKTEST Square Cup) up to the line (1.5mL) with sample. Add K-1 reagent (small tube).
- ② Place the cap and shake the cell 5-6 times.
- ③ Remove the colored line at the top of the tube to clear the aperture. Pull out the line.
- ④ Press tube's side wall to expel air, and hold the tube.
- ⑤ Immerse the aperture of the tube into the sample and release to fill the tube halfway. Shake the tube lightly for about 10 times.
- ⑥ After 8min, compare the actual color in the tube with provided Standard Color.

How to Read the Test

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 indicates the value between them.

Handling of PACKTEST Before and After Use

First Aid **Eye contact** → Immediately flush eyes with water for at least 15 minutes, followed by consult with Ophthalmologist.

Skin contact → Immediately flush contacted area with water.

Ingestion → Immediately rinse mouth.

If ingesting 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 could deteriorate in several days, especially during the hot and humid weather.

Disposal For business use, please follow in a manner consistent with Federal, State, and Local Regulations. Otherwise, the tube and bottle can be disposed as combustible waste.



KYORITSU
CHEMICAL-CHECK Lab., Corp.

1-18-2 Hakusan, Midori-ku, Yokohama, Kanagawa
226-0006, JAPAN E-mail: eng@kyoritsu-lab.co.jp

PACKTEST Free Cyanide

Feature

This product is based on 4-pyridinecarboxylic acid-pyrazolone method, and allows to measure Free Cyanide (mainly Cyanide ion and Cyanogen Chloride) in various samples, like industrial wastewater and environmental water by just simple operation.

Caution

1. This product measures Free Cyanide (CN^-) 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 6. pH adjustment is not necessary if the sample is already conditioned to pH12 with sodium hydroxide. If the pH of the sample exceeds 5–12, 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°C.
6. Ensure that the PACKTEST tube is filled up to half of the tube.
7. Even the reagent is not completely dissolved, it will not affect the reading.
8. 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.
9. 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 acceptable level by adding each of the single substances to the standard solution.

- ≤1000mg/L : Al^{3+} , As(III) , B(III) , Ba^{2+} , Ca^{2+} , Cl^- , F^- , K^+ , Mg^{2+} , Mo(VI) , Na^+ , NH_4^+ , NO_3^- , PO_4^{3-} , SO_4^{2-} , Zn^{2+} , Anionic Surfactant, Ethylenediaminetetraacetic Acid, Phenol
- ≤100mg/L : Cr^{3+} , NO_2^- , Ascorbic Acid
- ≤50mg/L : Cu^{2+}
- ≤10mg/L : Cr(VI) , Fe^{2+} , Fe^{3+} , Cationic Surfactant
- ≤5mg/L : Residual Chlorine, Formaldehyde
- <1mg/L : Co^{2+} , I^- , Mn^{2+} , Ni^{2+} , SCN^- , SO_3^{2-} , some kinds of ethylene amine

When there is interference, the developed color will be weaker in most cases.

However, it is identified that Thiocyanide and some kinds of ethylene amine (tetraethylene-pentamine and pentaethylene-hexamine) will show the stronger color development.

Oxidative and reductive substances may affect the color development.

Not suitable for measuring the seawater.

When measuring the sample like industrial wastewater, which may expect the presence of interfering substances, pretreatment procedure, like distillation or aeration method is required prior to the measurement. The complex between Cyanide and metals may not be detected as Free Cyanide. If this is the case, measure it as Total Cyanide.

【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.



KYORITSU
CHEMICAL-CHECK Lab., Corp.

1-18-2 Hakusan, Midori-ku, Yokohama, Kanagawa
226-0006, JAPAN E-mail:eng@kyoritsu-lab.co.jp

2102