



KYORITSU

PACKTEST
ION SELECTIVE

INSTRUCTIONS

Silica

Model WAK- SiO₂

Harmful



Corrosive

Molybdenum blue Method

Main reagent: Ammonium Molybdate

Range: 5 - 200 mg SiO₂/L (ppm)

How to use

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- (1) Put 0.2 mL of sample to the Cell (PACKTEST Square Cup) with the small pipette.
- (2) Add 1.5 mL of distilled water with the large pipette.
- (3) Add 2 drops of K-1 reagent. Put the cap.
- (4) Shake 2 - 3 times.
- (5) Wait for 3 minutes.
- (6) Add 1 drop of K-2 reagent. Put the cap back.
- (7) Shake 2~3 times.
- (8) Wait for 30 seconds.
- (9) Remove the line to clear the aperture from the top of the tube.
- (10) Press the sides of the tube to expel approximately half of volume. Maintain pressed.
- (11) Immerse the tube in the sample. Release the sides to fill the tube up to the half. Shake the tube lightly 5 - 6 times.
- (12) After 3 minutes, put the tube on the color chart as shown and compare with the standard colors.

How to read the test

After the reaction time, compare the color of the tube with the standard colors. The nearest color indicates the measured value of the sample. A color between two standard colors indicates a value between the two standard values.

Care in handling of PACKTEST before and after use

Keep PACKTEST in a cool, dry and dark place.

PACKTEST should be thrown with burnable garbage. Conform to the legislation of waste management.

Use a package as soon as possible after opening.

First Aid Measures

K-1 reagent contains diluted sulfuric acid (pH ≤ 2) and K-2 reagent contains oxalic acid (pH ≤ 2). It is harmful and corrosive to eyes and skin.

Eye contact → Immediately rinse eyes with water for at least 15 minutes. Consult a physician.

Ingestion → Immediately rinse mouth. Consult a physician.

Skin contact → Immediately flush skin with water.

In case of doubt, consult a physician.

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PACKTEST Silica

Features

The principle of this method is similar to molybdenum blue method. The Silica PACKTEST allows to measure silica concentration easily from sample like industrial waste water.

Cautions

1. The Silica PACKTEST can only measure SiO_3^{2-} ions.
2. The normal pH range is 2 - 9. If necessary, adjust the pH with diluted sulfuric acid or sodium hydroxide solution.
3. Keep sample temperature in the range 15°C - 40°C . Lower temperature necessitates longer reaction time.
4. Ensure that PACKTEST tube is filled up to the half.
5. Partially undissolved reagent will not affect the measurement.
6. Read the test under daylight type lamp.
7. Carefully wash the small pipette with the sample before use.
8. Put the line back into the aperture after using to prevent reagent spilt.

Interferences

Standard colors were determined from standard solutions. However, coexisting substances will cause inaccurate results. The list below reports ion concentrations under which ones interferences are insignificant:

$\leq 5000 \text{ mg/L}$: Al^{3+} , B^{3+} , Ba^{2+} , Ca^{2+} , Cl^- , CN^- , Fe^{2+} , I^- , K^+ , Mg^{2+} , Mn^{2+} , Mo^{6+} , Na^+ , NH_4^+ , NO_3^- ,
 SO_4^{2-} , Zn^{2+} , Anionic surfactant, Phenol, Residual Chlorine, Formaldehyde
 $\leq 1000 \text{ mg/L}$: As^{3+} , Co^{2+} , Cr^{6+} , Cu^{2+} , F^- , Fe^{3+} , Ni^{2+} , NO_2^-
 $\leq 500 \text{ mg/L}$: PO_4^{3-}
 $\leq 100 \text{ mg/L}$: Cr^{3+}

The Silica PACKTEST is suitable for sea water samples.

Oxidative and reducing chemical can interfere with the measurement.