



KYORITSU

**PACKTEST**  
ION SELECTIVE

INSTRUCTIONS

# Sulfide (Hydrogen Sulfide)

Model WAK- S

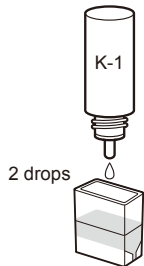


Methylene blue color comparison Method

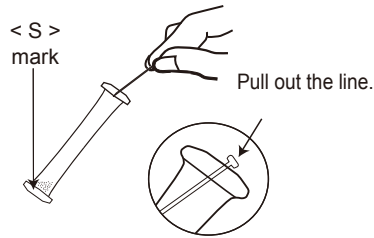
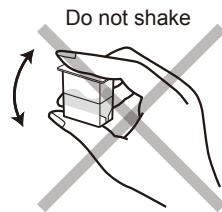
Main reagent: Dimethyl-p-phenylenediammonium

Range: S 0.1 - 5 mg/L (ppm)

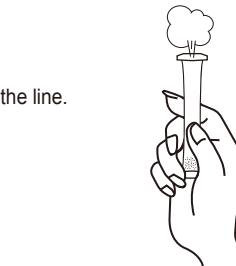
## How to use



(1) Fill the Cell (PACKTEST Square Cup) up to the first line (1.5 ml) with sample. Add 2 drops (~0.13mL) of K-1 reagent.

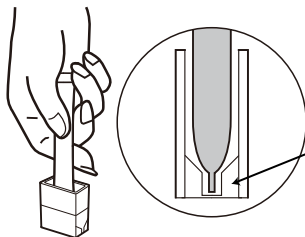


(2) Remove the line to clear the aperture from the top of the tube.



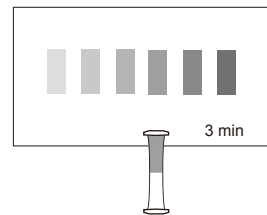
(3) Press the sides of the tube to expel approximately half of volume. Maintain pressed.

(4) Immerse the tube in the sample. Release the sides to fill the tube up to the half. Shake the tube lightly a few times.



insert the PACKTEST in the groove, as shown.

(5) 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

Contains a strong acid ( pH < 2 ). It is harmful and corrosive.

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 Sulfide (Hydrogen Sulfide)

### Cautions

1. The Sulfide (Hydrogen Sulfide) PACKTEST allows to measure hydrogen sulfide ( $H_2S$ ), hydrogen sulfide ion ( $HS^-$ ), sulfide ion ( $S^{2-}$ ) concentration. The sulfuric acid and the sulfurous acid can not be measured.
2. Hydrogen sulfide concentration can be obtained by multiplying by 1.06 the measured value.
3. The normal pH range is less than 9. If necessary, correct a high pH with a diluted sulfuric acid solution.
4. Do not shake the sample after K-1 reagent addition. If the sample is shaken the color development could be reduced.
5. The standard reaction temperature is 15-40°C.
6. In some cases, when sulfide is not present, the color could become pink.
7. If the sulfide concentration is higher than 20 mg/L, the coloration becomes weaker. If you think that the sample contains a high sulfide concentration (rotten egg smell), you should dilute the sample before.
8. Ensure that PACKTEST tube is filled up to the half.
9. Undissolved reagent does not affect the measurement.
10. Read the test under a daylight type lamp.
11. Put the line back into the aperture after use 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:

- $\leq 1000$  mg/L :  $B^{3+}$ ,  $Ba^{2+}$ ,  $Ca^{2+}$ ,  $Cl^-$ ,  $K^+$ ,  $Mg^{2+}$ ,  $Na^+$ ,  $NH_4^+$ ,  $Ni^{2+}$ ,  $PO_4^{3-}$ ,  
 $SO_4^{2-}$ ,  $Zn^{2+}$ , Anionic surfactant
- $\leq 500$  mg/L :  $Al^{3+}$ ,  $F^-$
- $\leq 200$  mg/L :  $Cr^{3+}$ ,  $NO_3^-$ , Phenol
- $\leq 100$  mg/L :  $CN^-$ ,  $Fe^{2+}$
- $\leq 50$  mg/L :  $Fe^{3+}$ ,  $I^-$ ,  $Mo(VI)$
- $\leq 20$  mg/L :  $Cr(VI)$
- $\leq 10$  mg/L :  $Co^{2+}$ ,  $Mn^{2+}$ ,  $SO_3^{2-}$
- $\leq 5$  mg/L :  $NO_2^-$ ,  $S_2O_3^{2-}$
- $\leq 2$  mg/L :  $Cu^{2+}$
- sub-ppm level :  $Ag^+$ ,  $SCN^-$ , Residual Chlorine

Oxidizing chemical can react with the reagent.

The Sulfide (hydrogen sulfide) PACKTEST is suitable for a seawater sample.

Sulfide ions precipitate with metal ions. In this case, precipitated sulfide can not be detected with this PACKTEST.