$NaClO_2$-D　Sodium Chlorite (Low Range)

Color development : None → Pink
Method : Potassium iodide and DPD method
Range : 0.10 — 2.00 mg/L (ppm)
Reagent : WAK-$NaClO_2$ (D) , K-1 (Small Pack) , K-2 (Dropper) , K-3 (Dropper) , Tube
Reaction time : 1 min. after drawing sample into the tube.

Cell : PACKTEST Square Cup
Wavelength : 552 nm, 532 nm, 670 nm

Procedure

1. Press【$NaClO_2$-D】.
2. Press【OK】to switch to the photometry window.
3. Fill the Cell with the sample for 1.5 mL (up to line). (Fig.1)
4. Put the Cell in the cell box and press【Zero】. (Fig.2)
5. Add the K-1 reagent. (Fig.3)
6. Add one droplet of K-2 reagent, attach the cap, and shake the Cell 10 times. (Fig.4)
7. Add two droplets of K-3 reagent. (Fig.5)
8. Suck the whole amount of the sample in the Cell into the tube and press【Start】at the same time. (Fig.6)
9. Lightly shake the tube in Step 8 from 5 to 6 times, immediately return the solution in the tube to the Cell in a gentle manner, set it again in the cell box. (Fig.7)
10. After 1 minute has elapsed, the concentration will be automatically displayed.

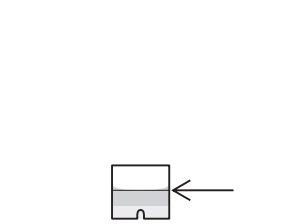
Fig.1

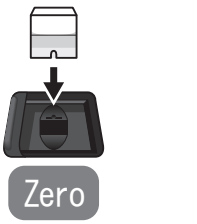

Fig.2

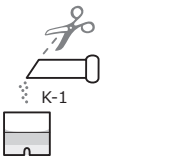

Fig.3

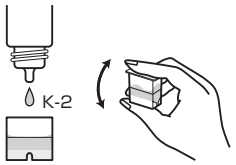

Fig.4

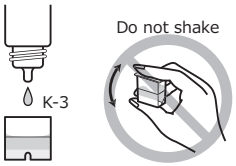

Fig.5

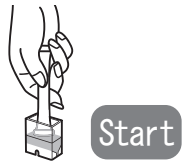

Fig.6

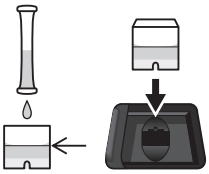
Fig.7

When separately measuring the concentration of sodium chlorite and residual chlorine (0.5 mg/L or less)

① Press【$NaClO_2$-D】.
② Press【OK】to switch to the photometry window.
③ Fill the Cell with the sample for 1.5 mL (up to line). (Fig.8)
④ Suck the whole amount of the sample in the Cell into the tube of PACKTEST Total Residual Chlorine (WAK-T·ClO) and then lightly shake the tube 5 to 6 times.
Develop the color of the total residual chlorine. (At this point, the color of the sodium chlorite will not be developed.)(Fig.9)
⑤ Return the solution in the tube to the Cell, put the Cell in the cell box, and press【Zero】. (Fig.10)
⑥ Take the Cell out of the cell box, empty it, and clean it with pure water or the sample. (Fig.11)
⑦ Fill the Cell in ⑥ with the sample for 1.5 mL (up to line). (Fig.12)
⑧ From this step onwards, perform measurement by following in Step 5 of "Procedure".

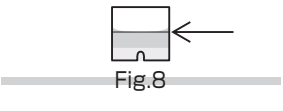
Fig.8

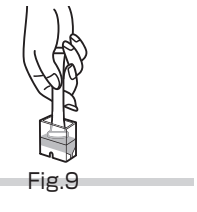
Fig.9

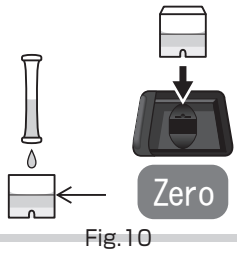

Fig.10

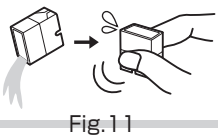
Fig.11

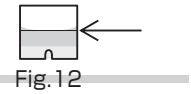
Fig.12

Caution

1. In this method, the concentration of residual chlorine (hypochlorous acid, etc.) and chlorine dioxide is also measured.
   To separately measure the concentration of sodium chlorite and residual chlorine, refer to "When separately measuring the concentration of sodium chlorite and residual chlorine (0.5 mg/L or less)." In this case, separately prepare the PACKTEST Total Residual Chlorine (WAK-T·ClO). However, this cannot be applied in the case where residual chlorine of 0.5 mg/L or more coexists.
2. As chlorine gas may be generated during measurement, be sure to perform measurement while ventilating the air.
3. The pH as of after adding K-2 reagent is approx. 1. The pH as of during color development is approx. 5. If the pH of the sample is not within the range from 2 to 9, perform measurement after neutralizing the sample with dilute sulfuric acid or dilute sodium hydroxide solution, etc. However, extract by 9 mmol/L sodium carbonate solution can be measured without pH adjustment.
4. Perform measurement with the sample temperature set to 15 to 30℃ .
5. When the concentration of sodium chlorite is 10 mg/L or higher, the measurement value will be low. If high concentration is anticipated, dilute in advance and then perform measurement.

Influence of coexisting substance

The stored calibration curve has been created by using the standard solution. If the influence of other substance is considered, check the measurement value by comparing it with the official method or by standard addition method.
The right chart is the list of interference data for acceptable level by adding each of the single substances to the standard solution.

Seawater does not affect the measurement.
The color is developed by the residual chlorine contained in the tap water. The residual chlorine and chlorine dioxide also make the same color development.
The color is also developed by oxidizing substances such as hydrogen peroxide.
Reductive substances such as Fe^{2+} and NO_2^- consume sodium chlorite. NO_2^- may serve as an oxidizer and may develop its color.

≤ 1000mg/L,	: Al^{3+} , B (Ⅲ) , Ca^{2+} , Cl^- , F^- , I^- , K^+ , Mg^{2+} , Mn^{2+} , Mo (Ⅵ) , Na^+ , NH_4^+ , Ni^{2+} , NO_3^- , PO_4^{3-} , SO_4^{2-} , Zn^{2+} , Albumin , Sodium Chlorate , Citric Acid , Glycine , Glucose , Glutamic Acid , Tartaric Acid , Silica , Starch , Phenol
≤ 500mg/L,	: Co^{2+}
≤ 50mg/L,	: Anionic Surfactant
≤ 10mg/L,	: Fe^{3+}
≤ 2mg/L,	: Cu^{2+} , Cationic Surfactant
< 1mg/L,	: Cr (Ⅵ) , Fe^{2+} , NO_2^- , SO_3^{2-} , Ascorbic Acid , Residual Chlorine , Hydrogen Peroxide , Chlorine Dioxide

Information on reagent

Refer to the usage that comes with PACKTEST.
The pH as of after adding K-2 reagent is 1.
The pH as of after adding K-3 reagent and the solution is 5.