As　Arsenic

Color development：None → Light blue → Blue
Method　　：Molybdenum Blue
Range　　：0.20 — 3.00 mg/L（ppm）
Reagent　　：DPR-As　R-1（Liquid）, R-2（Liquid）, R-3（Liquid）, R-4（Liquid）, Tube
Reaction time ：5 min. after drawing sample into the tube.

Cell：PACKTEST Square Cup
Wavelength：650 nm

Features

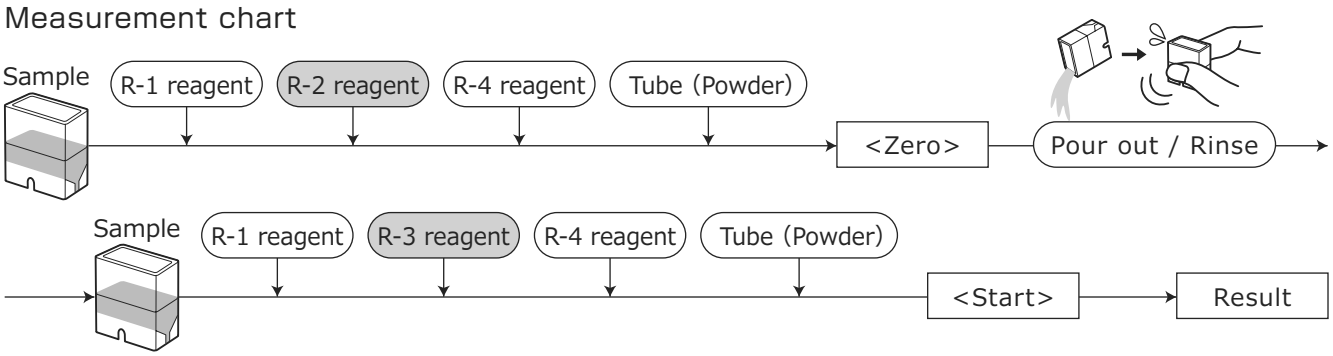
In the Molybdenum-blue absorptiometry method, which is the color development principle of this product, the colors of arsenate ions (As(Ⅴ)) and phosphate ions (PO_4^{3-}) develop in the same manner.

If arsenate ions, arsenite ions (As(Ⅲ)) and phosphate ions exist in the sample, first reduce the arsenate ions into arsenite ions and develop the color of phosphate ions only, and use this color as a reference. (the upper row of "Measurement chart" below)
Next, oxidize the arsenite ions into arsenate ions and develop their color together with the original arsenate ions and phosphate ions. (The lower row of "Measurement chart" below)
The total value of arsenate ions and arsenite ions is obtained through subtraction between these two color developments, and it is converted into an arsenic value.

Caution

If phosphate ions coexist at a concentration of 1 mg/L or higher, it is not possible to measure the concentration of arsenate ions.

Measurement chart



Procedure

First, develop the color of phosphate ions only for the purpose of zero adjustment.

1. Fill the Cell with the sample for 1.5 mL (up to line).（Fig.1）
2. Add one droplet of R-1 reagent, attach the cap, and shake the Cell 2 to 3 times.（Fig.2）
3. Add two droplets of R-2 reagent, attach the cap, shake the Cell 2 to 3 times, and leave for 10 minutes.（Fig.3）
4. Add four droplets of R-4 reagent, attach the cap, and shake the Cell 2 to 3 times.（Fig.4）
5. Suck the whole amount of the sample in the Cell into the tube and then lightly shake the tube 5 to 6 times.（Fig.5）
6. Return the solution to the Cell and wait for 5 minutes.（Fig.6）