

Analysis of Chloride According to the Japanese Testing Methods for Fertilizers (SI-52 4E)

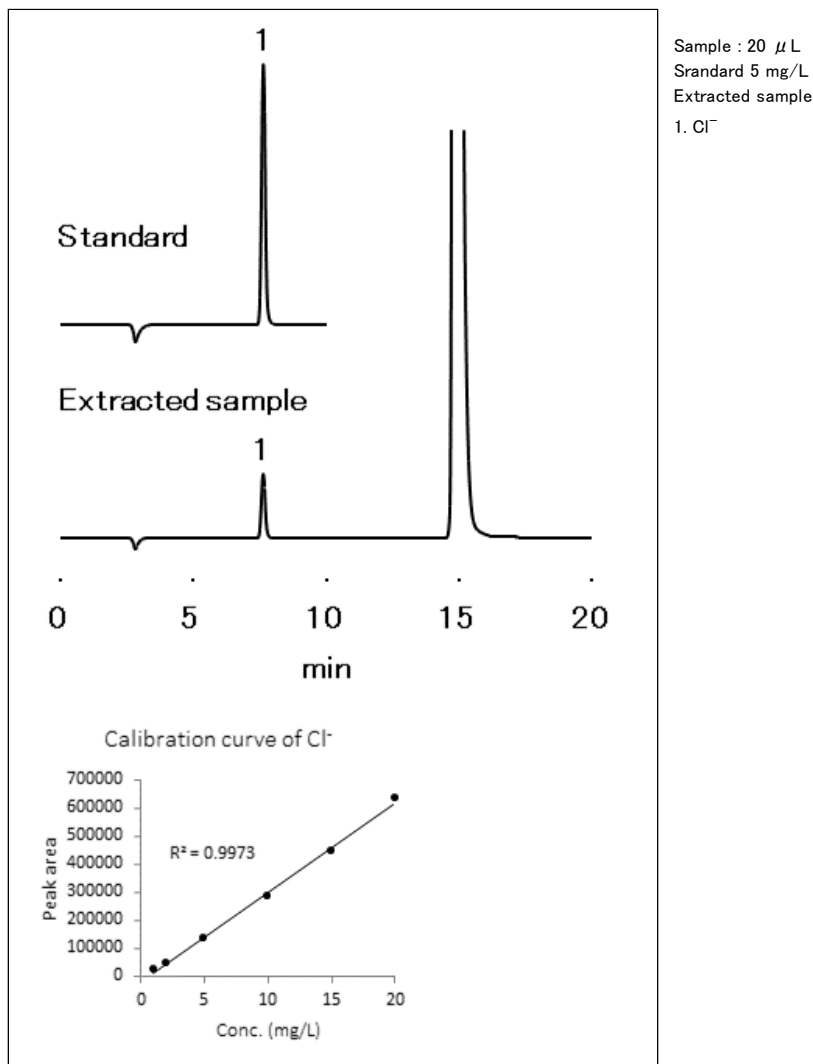
Please use this column with suppressor type ion chromatography system.

The Japanese Testing Methods for Fertilizers (2019) lists IC SI-52 4E as a suppressor type chromatography column for the analysis of chloride in fertilizers. This method applies to fertilizers, such as “potassium sulfate”, “potassium bicarbonate”, “magnesium potassium sulfate”, “fish powder”, “fish meal”, and “compost”.

In this application, we used SI-52 4E to analyze chloride standard solution and potassium sulfate, one of the fertilizers included in the method. A good linearity was obtained for the calibration curve in the concentration range of 1 – 20 $\mu\text{g/mL}$ chloride. Analysis of chloride in fertilizer using a non-suppressor method is also available [here](#).

Sample preparation

1. Weigh 1.00 g of the target sample and put it in a 200-mL Erlenmeyer flask with stopper.
2. Add 100-mL water and mix the contents for 10 minutes by placing the flask on a flask shaker.
3. Pour the supernatant into a 50-mL centrifuge tube with stopper and centrifuge at 1,700 x g for about 5 minutes.
4. Dilute the supernatant 1 + 19 fold with water.
5. Filter the mixture with a 0.45- μm membrane filter and use it as a sample.



Columns : Shodex IC SI-92G (4.0 mm I.D. x 10 mm) + SI-52 4E (4.0 mm I.D. x 250 mm)
Eluent : 6.4 mM Na_2CO_3 aq.
Flow rate : 0.8 mL/min
Detector : Suppressed conductivity
Column temp. : 40 $^\circ\text{C}$