

SPE Columns for Elemental Capture and Recovery

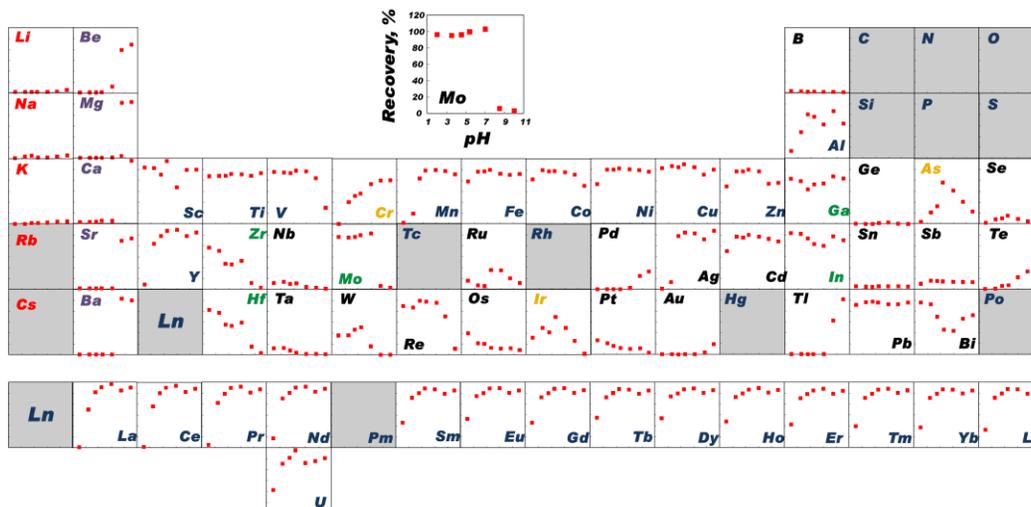
Presep® PolyChelate

Presep® PolyChelates are syringe-type columns for metal (elemental) capture and recovery, filled with a packing agent with a long-chain aminocarboxylic acid group as the chelating functional group. Compared to general SPE column, filled IDA (Iminodiacetic acid) chelating resins, Presep® PolyChelate can capture and recover many elements with higher efficiency over a wide pH range. It can also efficiently capture and recover metal oxoacids (Mo, V, W) under acidic to neutral conditions without recovering alkali metals or alkaline earth metals.

Features

- ✓ Capable of capturing and recovering many elements with high efficiency over a wide pH range!
- ✓ Efficient capture and recovery of metal oxoacids (Mo, V, W) under acidic to neutral conditions without recovery of alkali metals and alkaline earth metals!

Correlation between pH and recovery of 62 elements when using Presep® PolyChelate¹⁾

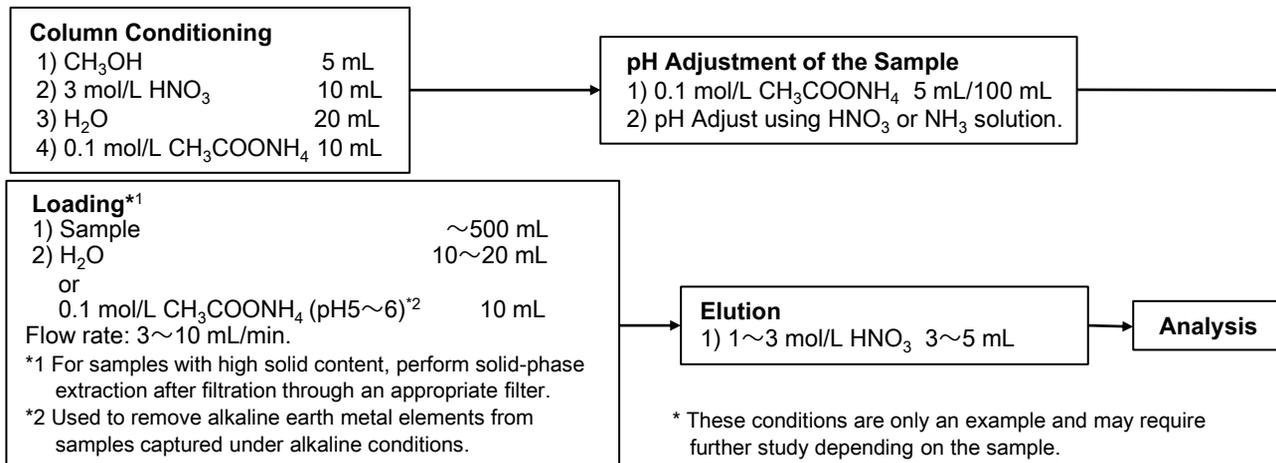


[Instrument]

PerkinElmer Optima 3000 DV ICP-AES, cross-flow nebulizer and a Scott-type spray chamber

1) Provided by Prof. Kagaya, Faculty of Engineering, University of Toyama

Example of solid-phase extraction operation*



Example of measurement of Elements in Treated Wastewater and Surface Seawater²⁾

■ Solid-phase extraction operation²⁾

Please see the reverse

■ Recovery rate²⁾

Element	Treated wastewater ^{*1} (n=3)		Surface seawater ^{*2} (n=3)	
	Detection (µg/L)	Recovery rate ^{*3} (%)	Detection (µg/L)	Recovery rate ^{*3} (%)
Cd	0.2±0.02	93±2.9	(0.03±0.004)	96±1.7
Co	<0.033	92±3.7	(0.02±0.012)	96±1.5
Cu	1.1±0.13	104±3.5	0.77±0.017	112±3.2
Fe	33±3.3	114±13.8	1.3±0.05	94±3.2
Mn	871±75	64±9.0	Not measure	Not measure
Mo	458±9.3	98±1.7	7.4±0.07	100±4.5
Ni	11±0.2	101±4.9	0.46±0.017	100±1.8
Pb	<0.22	94±2.7	0.09±0.052	104±2.0
V	<0.22	92±3.1	1.3±0.05	96±2.5
Zn	11±3.1	83±2.1	2.5±0.24	102±2.2

✓ **Trace metal oxoacids (Mo, V) in seawater containing a large amount of alkali metals can be captured and recovered efficiently!**

*1 Sample volume: 200 mL (pH 5.5)

*2 Sample volume: 300 mL (pH 4.0)

*3 Internal standard solution (5 µg of each element) added to the solution

2) Kagaya, S., Maeba, E., Inoue, Y., Kamichatani, W., Kajiwara, T., Yanai, H., Saito, M. and Tohda, K.: *Talanta*, **79**, 146 (2009).

Product List

Code No.	Product Name	Grade	Volume
296-36931	Presep® PolyChelate (250 mg/15 mL)	for Sample Pretreatment	20 EA
143-09741	Nitric Acid	for Electronics Industry	1 kg
133-18731	Methanol	for Electronics Industry	1 L
217-01651	Ultrapure Water	for ICP Analysis	1 L

Please check our website for details.

TOP > Analytical Chemistry > Solid-Phase Extraction Columns > SPE Columns for Metal (Elemental) Capture and Recovery "Presep® PolyChelate"

<https://labchem-wako.fujifilm.com/us/category/00995.html>



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