

SPE Columns for Elemental Capture and Recovery

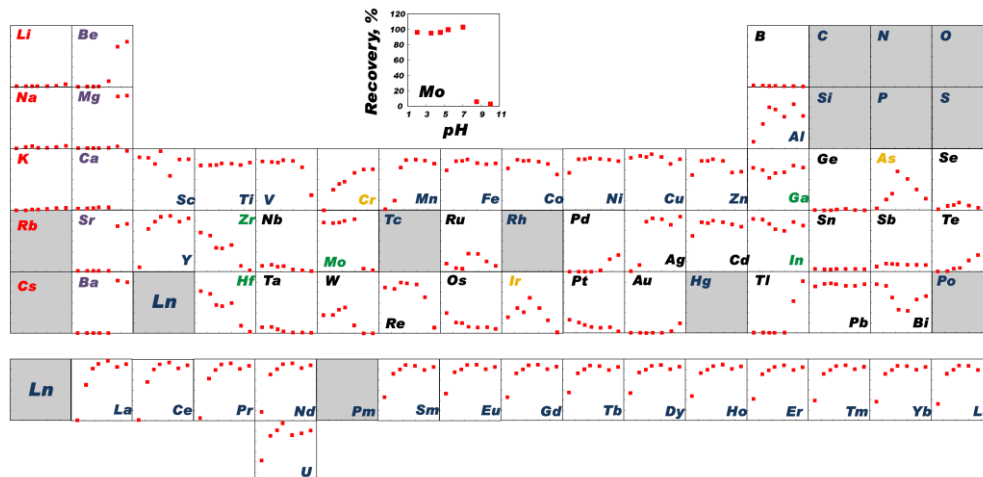
Presep® PolyChelate

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!
- ✓ Can be used as a SPE column in the separation and concentration method by chelating resin in JIS K 0102 "testing methods for industrial wastewater!"

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

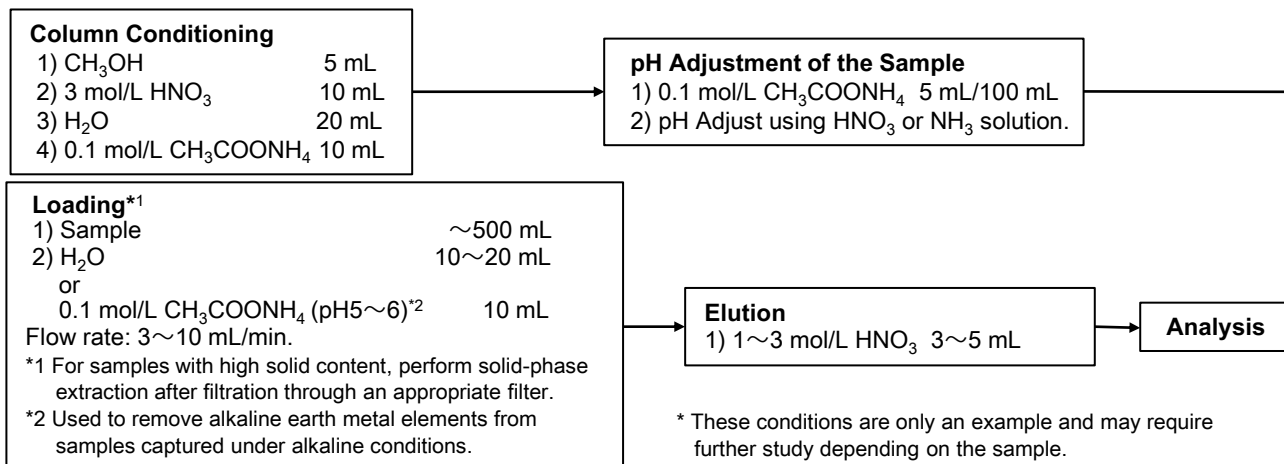


[Instrument]

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
010-09685	Ammonium Acetate	for Iron Analysis	500 g
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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