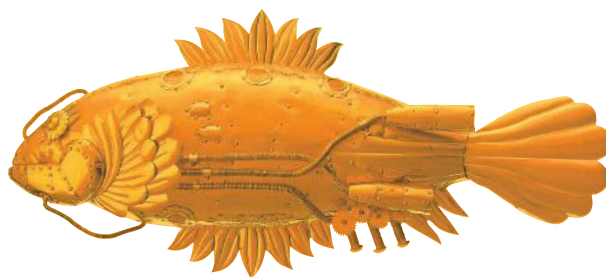


Shodex™



HPLC Columns

MANUAL

CXpak P-421S

SHOWA
DENKO
EUROPE

Columns manufactured by Showa Denko K.K Japan
Made in Japan

Shodex HPLC Columns
Europe, Middle East, Africa, Russia

For technical support please use
contact details shown below:

SHOWA DENKO EUROPE GmbH
Shodex Business
Konrad-Zuse-Platz 3
81829 Munich, Germany

E-mail: support@shodex.de
Phone: +49 (0)89 93 99 62 37
www.shodex.de

Operation Manual

Shodex™ CXpak™ P-421S

(Please read this manual carefully before using the column to keep its good performance and life.)

1. Introduction

A column packed with a strong cation exchange resin produced by sulfonating porous styrene-divinylbenzene copolymer, Shodex CXpak P-421S is designed for use in the analysis of amino acids by HPLC.

2. Specifications

Column size:	4.6ø x 150mm
Endfitting:	Internally-threaded type, No. 10 32 UNF
Column material:	SUS316
Base material:	Strong cation exchanger (Styrene-divinylbenzene copolymer)
Functional group:	Sufo group (Na ⁺)
Theoretical plates:	Min. 3500 plates/column (using 1% EG sample)
In-column solvent:	Distilled water

3. Conditions to be used

Flow rate: Max. 0.7 mL/min.

Caution!

- 1) 0.5 mL/min. is recommended for ordinary use.
- 2) Max. 0.5 mL/min. when eluent containing more than 5% of organic solvent is used.
- 3) Max. 0.3 mL/min. when the in-column solvent is replaced or the column is regenerated.

Pressure: Max. 50 kgf/cm² per column.

Temperature: 15~60°C

pH range: Min. 3.0 (Use with a buffer containing Na⁺)

Organic solvent: Max. concentration: 15%

4. Others

1) Install a guard column, CXpak P-G(4.6 ϕ x 10 mm) immediately upstream of the main column to protect it from contamination by the sample.

The guard column is intend to maintain the main column performance as designed for a long period of time and not to improve its resolving power.

2) When regenerating the column, it is recommended to use 0.01N NaOH.

Eluent condition for P-421S

	No. 1	No. 2	No. 3	No. 4
Trisodium Citrate dehydrate (g)	12.38	7.74	13.31	26.67
NaCl (g)	11.32	7.07	3.74	54.35
Citric acid monohydrate (g)	39.6	22	12.8	6.1
Ethanol (mL)	260	20	4	-
Benzyl alcohol (mL)	-	-	-	5
Thiodiglycol (mL)	10	5	5	-
Brij-35 (25% aq.) (mL)	8	4	4	4
Caprylic acid (mL)	0.2	0.1	0.1	0.1
Total volume (aq.) (L)	2	1	1	1
Theoretical pH	3.3	3.2	4	4.9

	No.5 (Regenerant)
NaOH (g)	16
Ethanol (mL)	200
Brij-35 (25% aq.) (mL)	8
Octanoic acid (mL)	0.2
Total volume (aq.) (L)	2

Reagent

Reagent A	
Propyreneglycol-alpha-monomethyleter (mL)	1000
Ninhydrin (g)	39
(N2 bubbling)	
Sodium borohydride (mg)	80
N2 bubbling for 20min and more	

Reagent B	
H ₂ O (mL)	336
Lithium acetate dehydrate (g)	204
Glacial acetic acid (mL)	123
Propyreneglycol-alpha-monomethyleter (mL)	400
N ₂ bubbling for 10min and more	
Total (mL)	1000