Column Care and Use Instructions
Alcyon SFC CSP Amylose-C, Amylose-C Neo, Cellulose-C

Supercritical Fluid Chromatography/Optical Isomer Separation Column (Coated type)

Thank you for purchasing this product. To ensure optimal performance and durability of the column, please read these instructions carefully before using this column.

1. Specifications

Item	Alcyon SFC CSP Amylose-C Alcyon SFC CSP Amylose-C Neo	Alcyon SFC CSP Cellulose-C
Particle size	3, 5 μm	
Chiral selector	Amylose tris(3,5-dimethylphenylcarbamate)	Cellulose tris(3,5-dimethylphenylcarbamate)
Type	Coated type	
Shipping solvent	*n*-hexane/2-propanol (90/10)	
Usable temperature range	0–40℃	
Pressure limit	2.1, 3.0, 4.6 mmI.D. : 30 MPa 10, 20 mmI.D. : 20 MPa	
Recommended flow rate	2.1 mmI.D. : 0.2–0.6 mL/min 3.0 mmI.D. : 0.4–1.2 mL/min 4.6 mmI.D. : 1.0–3.0 mL/min	10 mmI.D. : 5–15 mL/min 20 mmI.D. : 20–60 mL/min

※ If you intend to store the column for a long time, replace the mobile phase in the column with shipping solvent or 100% 2-propanol.

※ Avoid using a column repeatedly near the pressure limit or abrupt change in the pressure in order to prevent from shortening the column lifetime.

※ Adjust flow rate according to the recommendation in the table above to obtain the optimum results under the application.

※ Pressure changes depending on column length, temperature, types of organic solvent etc. If pressure exceeds the upper limit, reduce flow rate to below the lower rate of recommended range.

2. Precautions for use

- Tubing must have flat ends and must bottom out in the column endfitting. Tubing must be connected to the column correctly to avoid creating a void between the column frit and tubing, which can cause a leak and result in poor column performance (e.g. peak tailing, loss of theoretical plate number).
- The correct direction of the solvent flow is indicated by an arrow on the column identification label.
- Do not disconnect a column from the SFC system before the pressure drops to zero.

3. Mobile phase and sample solvent

- When the target compounds are ionic, addition of additives listed below can improve peak shape and/or separation reproducibility. High concentrations of additives can result in reducing column lifetime. Add/reduce the additives according to the notes in the table. Additive concentration below is concentration for the entire mobile phase.
- When possible, the sample should be dissolved in the same modifier as the mobile phase. Using a stronger solvent than mobile phase for sample dissolution might result in distorted peak symmetry and degraded resolution.
- In order to avoid blockage which can cause pressure increase, the sample solution should be filtered through a membrane filter (0.2 μm or smaller porosity).

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【Recommended solvents】

	Acidic compounds	Basic compounds	Non-Ionic compounds
Modifiers	alcohols (methanol, ethanol, 2-propanol, etc.)		
Additives	0.1% (Upper limit 0.5%) trifluoroacetic acid (TFA), acetic acid, formic acid, etc.	0.1% (Upper limit 0.5%) diethylamine (DEA), butylamine, ethanolamine, etc.	None
Composition ratio	CO_2/modifiers (99/1–40/60)		

4. Column cleaning (general method)

- Flush the column with solution containing a higher ratio of modifiers (for example, for CO_2/methanol mobile phase, concentration of methanol should be increased) for washing out the compounds that have a great capacity for retention in the column. When further cleaning is required, flush with 100% ethanol is effective.
- When a mobile phase containing acid or amine is used, replace with CO_2/modifiers containing neither of them (at the same ratio as the mobile phase), then wash as above procedure. Storing a column with a mobile phase containing additive is not recommended even for a short period of time.
- The column needs to be replaced when these cleaning methods do not regenerate the column performance. To extend the column lifetime, especially for samples containing large amount of impurities, we recommend a sample pretreatment conducted carefully prior to introducing the sample to the column.

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