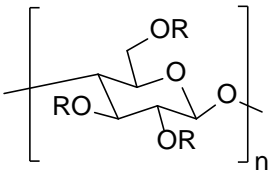
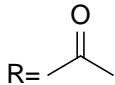
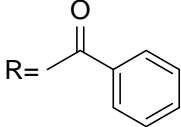
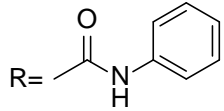
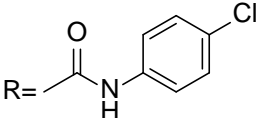
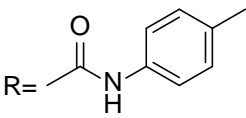
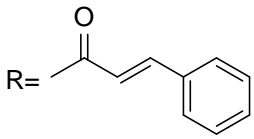


INSTRUCTION MANUAL FOR CHIRALCEL® OA, OB, OC, OF, OG, OK

<Normal Phase>

Please read this instruction sheet completely before using these columns

Column Description

CELLULOSE-BASED  Coated on 10 µm silica gel		
CHIRALCEL® OA	CHIRALCEL® OB	CHIRALCEL® OC
Cellulose triacetate 	Cellulose tribenzoate 	Cellulose triphenylcarbamate 
CHIRALCEL® OF	CHIRALCEL® OG	CHIRALCEL® OK
Cellulose tris(4-chlorophenylcarbamate) 	Cellulose tris(4-methylphenylcarbamate) 	Cellulose tricinnamate 

THIS INSTRUCTION MANUAL IS NOT APPLICABLE TO ANY OTHER DAICEL COLUMNS

CAUTION

The entire HPLC system, including the injector and the injection loop, must be flushed with a solvent compatible with the column and its storage solvent prior to connecting the column. Many of the solvents commonly used as HPLC eluents including acetone, chloroform, DMF, dimethylsulfoxide, ethyl acetate, methylene chloride, and THF, may DESTROY the chiral stationary phase if they are present, even in residual quantities, within the system.

If an auto-sampler is used, then the solvent employed to flush this unit between injections should also be changed to something compatible and the relevant solvent lines flushed.

Operating Instructions

	150 x 4.6 mm i.d. 250 x 4.6 mm i.d. Analytical Columns
Guard	50 x 4.6 mm i.d. Guard Column
Flow Rate Direction	As indicated on the column label
Typical Flow Rate ^①	1.0 ml/min
Pressure Limitation ^②	Should be maintained < 100 Bar (1450 psi) for maximum column life. Adapt flow rates to column size.
Temperature	0 to 40°C
Column Fitting	Please contact Technical Support for details

① The maximum flow rate depends on the mobile phase viscosity (mobile phase composition), and should be adjusted in accordance with the pressure upper's limit (i.e. 100 Bar).

② The column pressure is the total pressure minus the system pressure. At a given temperature, the column back pressure is linearly proportional to the flow rate.

Operating Procedure

 **Please contact Chiral Technologies for further assistance before trying any solvents not mentioned below.**

A - Mobile Phases

	Alkane ^① / 2-Propanol ^②	Alkane ^① / Ethanol ^②
CHIRALCEL[®] OA CHIRALCEL[®] OB CHIRALCEL[®] OC CHIRALCEL[®] OK	100/0 to 0/100	100/0 to 0/100
CHIRALCEL[®] OF	100/0 to 50/50	NOT ALLOWED
CHIRALCEL[®] OG	100/0 to 50/50	100/0 to 80/20

① Alkane: n-Hexane or iso-Hexane or n-Heptane. Some small selectivity differences have been observed when switching between these different alkanes.

② The retention is generally shorter with Ethanol than with 2-Propanol, and the retention is generally shorter with higher alcohol contents.

B – Additives

For basic samples or acidic samples, it is necessary to add an additive into the mobile phase in order to achieve the chiral separation.

⑦ For primary amines mainly

⑧ For primary amino alcohols mainly

Basic Samples require Basic additives	Acidic Samples require Acidic additives
DEA n-Butylamine ^⑦ Ethanolamine ^⑧	TFA CH ₃ COOH HCOOH
< 0.5% Typically 0.1%	< 0.5% Typically 0.1%

Column Care / Maintenance

- ❑ The use of a guard column is highly recommended for maximum column life.
- ❑ Samples should preferably be dissolved in the mobile phase and should be filtered through a membrane filter of approximately 0.5µm porosity.
- ❑ For CHIRALCEL® OA, OB, OC, OF, OG, and OK, the column should be flushed with Hexane/2-Propanol (90:10 v/v) when stored for more than one week.
- ❑ For CHIRALCEL® OA, OB, OC, and OK, when washing is required, use pure Ethanol at 0.5 ml/min for 1 to 3 hours.
- ❑ For CHIRALCEL® OF, when washing is required, use Hexane/2-Propanol (50:50 v/v) at 0.5 ml/min for 1 to 3 hours.
- ❑ For CHIRALCEL® OG, when washing is required, use Hexane/Ethanol (80:20 v/v) at 0.5 ml/min for 1 to 3 hours.

Important Notice

⇒ STRONGLY BASIC solvent additives or sample solutions MUST BE AVOIDED, because they are likely to damage the silica gel used in these columns.

Operating these columns in accordance with the guidelines outlined here will result in a long column life.

⇒ If you have any questions about the use of these columns, or encounter a problem, contact:

In the USA: questions@cti.daicel.com or call 800-6-CHIRAL

In the EU: cte@cte.daicel.com or call +33 (0) 3 88 79 52 00

In India: chiral@chiral.daicel.com or call +91 84 1866 0700 & 703

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