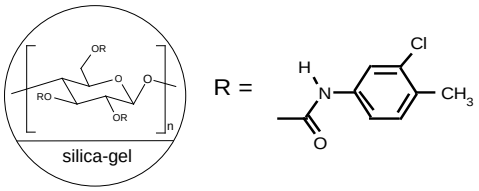
INSTRUCTION MANUAL FOR CHIRALCEL® OZ-H

Please read this instruction sheet completely before using this column

Column Description

CHIRALCEL® OZ-H

Cellulose tris(3-chloro-4-methylphenylcarbamate)
coated on **5µm silica-gel**.



Shipping solvent: n-Hexane / 2-propanol solvent mixture (90:10 v/v)

All columns have been pre-tested before packaging. Test parameters and results, as well as the Column Lot Number, are included on a separate (enclosed) page.

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. Many of the solvents commonly used in HPLC eluents such as acetone, chloroform, DMF, dimethylsulfoxide, ethyl acetate, methylene chloride and THF may DESTROY the chiral stationary phase if they are present, even in residual quantities, in the system. If an auto-sampler is used, then the solvent employed to flush this unit between injections should also be changed and the relevant solvent lines flushed.

Operating Conditions

	150 x 2.1 mm i.d. Analytical columns	**150 x 4.6 mm i.d.** **250 x 4.6 mm i.d.** Analytical columns	**250 x 10 mm i.d.** Semi-prep. columns	**250 x 20 mm i.d.** Semi-prep. columns
Flow rate direction	As indicated on the column label			
Typical Flow rate ①	~ 0.1 - 0.2 ml/min	~ 1 ml/min	~ 5 ml/min	~ 18 ml/min
Pressure limitation	Should be maintained < 300 Bar (4350 psi) for maximum column life Adapt flow rates to column size.			
Temperature	0 to 40°C			

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. 300 Bar).

Operating Procedure

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

A - Mobile Phases

	Alkane❶/ 2-propanol❷	Alkane❶/ Ethanol❷	Alkane❶/ MeOH❸	MeOH❹+❺	CH_3CN❺ No Alkane at all
CHIRALCEL®OZ-H	100/0 to 0/100	100/0 to 0/100	100/0 to 85/15	0 to 100% EtOH or IPA or CH_3CN in MeOH	0 to 100% EtOH or IPA or MeOH in CH_3CN

❶ Alkane: n-hexane or iso-hexane or n-heptane. Some small selectivity differences may sometimes be found.

❷
- The retention is generally shorter with Ethanol than with 2-propanol.
- The retention is generally shorter with higher alcohol contents.
- The use of other alcohols such as 1-propanol, 1-BuOH, 2-BuOH etc…is possible, but effectiveness cannot be guaranteed.

❸ Due to limited miscibility of MeOH in Alkane, it is necessary to add an appropriate volume of EtOH together with MeOH in order to obtain an homogenous solvent mixture.
A maximum of 5% MeOH in n-hexane only may be used without adding EtOH.

❹ Ideal starting conditions: MeOH/EtOH 50:50 (v/v) when alcohol mixtures are required

❺
- The use of polar solvents as 100% methanol or 100% acetonitrile is possible with CHIRALCEL® OZ-H columns. Nevertheless once the column is transferred to a polar mode **we would recommend to dedicate it to this specific application.**

☞ *Equilibration in CH_3CN transfers may require longer time.*

- To safely transfer the column from hexane to methanol or acetonitrile or between different polar solvents, **use 100% EtOH as a transition mobile phase.**

- The use of other alcohols such as 1-propanol, 1-BuOH, 2-BuOH etc…is possible, but effectiveness cannot be guaranteed.

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:

Basic Samples Require Basic modifiers	Acidic Samples Require Acidic modifiers
DEA Butyl amine❻ Ethanol amine❼	TFA CH_3COOH
< 0.5% Typically 0.1%	< 0.5% Typically 0.1%

❻ For primary amines mainly
❼ For primary amino alcohols mainly

Column Care / Maintenance

- The use of a guard cartridge is highly recommended for maximum column life.
- Samples should be dissolved in the mobile phase and should be filtered through a membrane filter of approximately 0.5µm porosity.
- For alkane containing mobile phases, flush the column with Storage Solvent (Hexane / 2-propanol 9:1) when stored for more than one week.
- For columns dedicated to polar solvents, flush the column with the regular mobile phase **without the additive**.

☞ When washing is required, flush pure Ethanol for 3 hours.

Important Notice

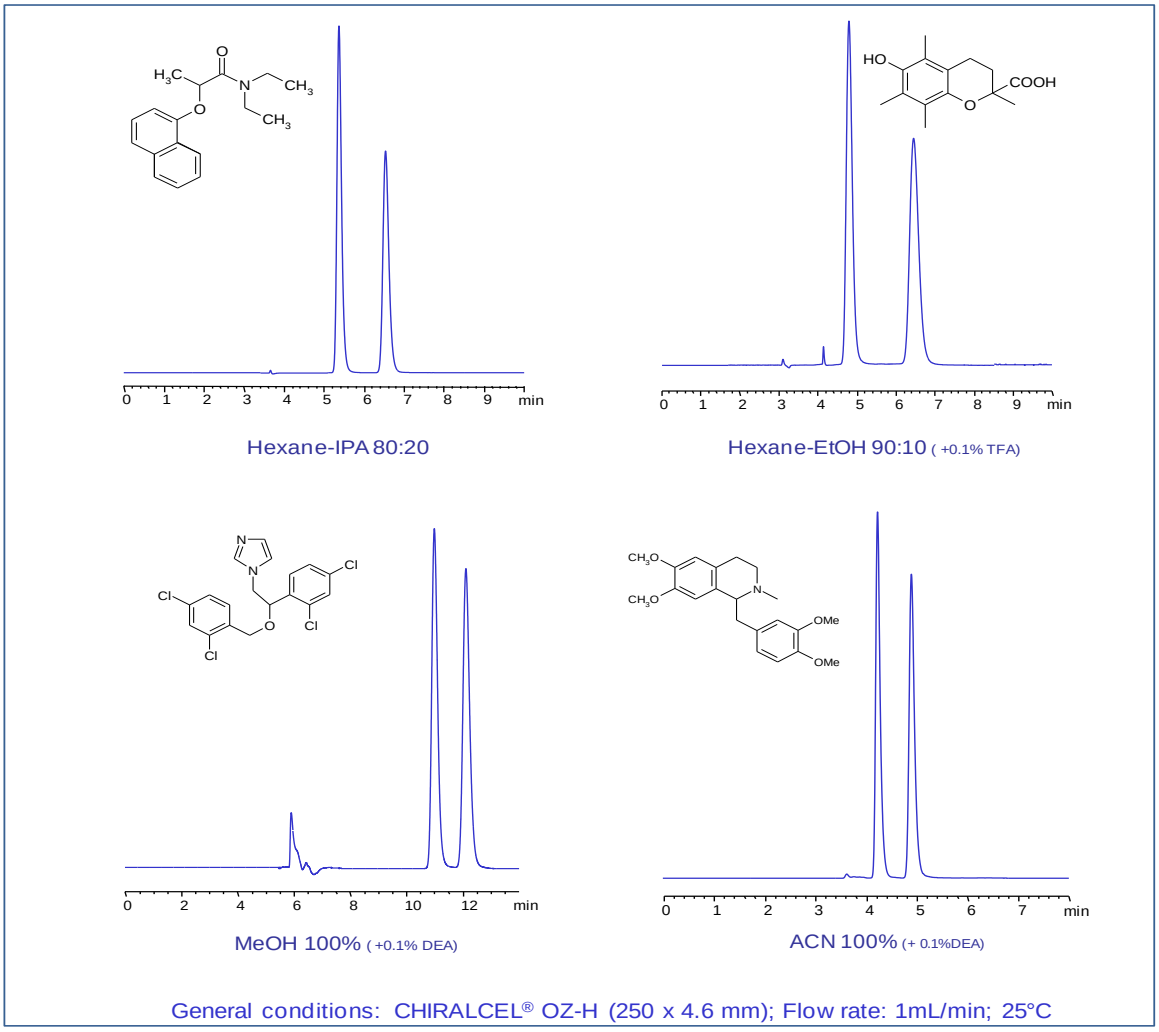
⇨ STRONGLY BASIC solvent modifiers or sample solutions MUST BE AVOIDED, because they are likely to damage the silica gel used in this column.

Operating this column 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@chiraltech.com or call 800-6-CHIRAL
In the EU: cte@chiral.fr or call +33 (0)3 88 79 52 00
In India: chiral@chiral.daicel.com or call +91-40-2338-3700

CHIRALCEL® OZ-H
Analytical HPLC applications



General conditions: CHIRALCEL® OZ-H (250 x 4.6 mm); Flow rate: 1mL/min; 25°C

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