




## Experimental Operating Conditions for DAICEL Analytical Normal Phase columns (Polysaccharide type) 5 and 10µm particle size

COLUMNS	IPA ①	EtOH ①	MeOH ② 	MeOH ③ 	ACN <u>No alkane</u> at all 	MTBE ④	ACID TFA or CH <sub>3</sub> COOH	BASE DEA or Butyl amine⑤ Ethanol amine⑥	Temp.
<b>CHIRALPAK® AD</b> 10µm	0-100% in alkane	0-15% in alkane or 60-100% in alkane	0-100% EtOH or IPA in MeOH <hr/> 0-15% ACN in MeOH	0-15% in alkane or 60-100% in alkane	0-100% IPA in ACN <hr/> 0-15% MeOH or EtOH in ACN	<b>Not allowed</b>	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALPAK® AD-H</b> 5µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH <hr/> 0-15% ACN in MeOH	0-100% in alkane	0-100% IPA in ACN <hr/> 0-15% MeOH or EtOH in ACN	<b>Not allowed</b>	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALPAK® AS</b> 10µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH <hr/> 0-15% ACN in MeOH	0-100% in alkane	0-100% IPA in ACN <hr/> 0-15% MeOH or EtOH in ACN	<b>Not allowed</b>	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALPAK® AS-H</b> 5µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH <hr/> 0-15% ACN in MeOH	0-100% in alkane	0-100% IPA in ACN <hr/> 0-15% MeOH or EtOH in ACN	<b>Not allowed</b>	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALCEL® OD</b> 10µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH	0-100% in alkane	<b>Not allowed</b>	< 50% in Alkane or Alkane/EtOH	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALCEL® OD-H</b> 5µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH <hr/> 0-15% ACN in MeOH	0-100% in alkane	0-100% IPA in ACN <hr/> 0-15% MeOH or EtOH in ACN	< 50% in Alkane or Alkane/EtOH	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALCEL® OJ</b> 10µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH	0-100% in alkane	<b>Not allowed</b>	< 50% in Alkane or Alkane/EtOH	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
<b>CHIRALCEL® OJ-H</b> 5µm	0-100% in alkane	0-100% in alkane	0-100% EtOH or IPA in MeOH <hr/> 0-15% ACN in MeOH	0-100% in alkane	0-100% IPA in ACN <hr/> 0-15% MeOH or EtOH in ACN	< 50% in Alkane or Alkane/EtOH	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C

COLUMNS	IPA ①	EtOH ①	MeOH ②	MeOH ③	ACN <u>No alkane</u>	MTBE ④	ACID TFA or CH <sub>3</sub> COOH	BASE DEA or Butyl amine <sup>⑤</sup> Ethanol amine <sup>⑥</sup>	Temp.
CHIRALCEL® OA 10µm	0-100% in alkane	0-100% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
CHIRALCEL® OB 10µm	0-100% in alkane	0-100% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
CHIRALCEL® OB-H 5µm	0-100% in alkane	0-100% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
CHIRALCEL® OC 10µm	0-100% in alkane	0-100% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
CHIRALCEL® OF 10µm	0-50% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
CHIRALCEL® OG 10µm	0-50% in alkane	0-20% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C
CHIRALCEL® OK 10µm	0-100% in alkane	0-100% in alkane	Not allowed	Not allowed	Not allowed	Not allowed	< 0.5%  Typically 0.1%	< 0.5%  Typically 0.1%	0-40°C

① Alkane: n-hexane or iso-hexane, or n-heptane

② Ideal starting conditions: MeOH/EtOH 50:50 (v/v) when alcohol mixtures are required

③ Due to limited miscibility, mix MeOH with an appropriate volume of EtOH when using with alkane solvents.  
A maximum of 5% MeOH in n-hexane only may be used without adding EtOH.

④ Long equilibration times are usually needed for mobile phases containing MTBE in order to obtain reproducible results.

⑤ For primary amines mainly

⑥ For primary amino alcohols mainly



The use of polar solvents as 100% methanol or 100% acetonitrile is possible with some of the CHIRALPAK® and CHIRALCEL® columns. Nevertheless once the columns are transferred to a polar mode they should be dedicated to this specific application.

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**To safely transfer the column from alkane or alcohol mixtures to ACN it is essential to use 100% IPA as a transition mobile phase at a low flow rate (0.3ml/min), due to the higher viscosity of IPA**

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