

MZ-HPLC Column Selection by *Ph. Eur.* Listing

The European Pharmacopoeia (*Ph. Eur.*) contains a number of general monographs for the manufacture of medicinal products, general methods of analysis of substances and medicinal products and some general requirements for pharmaceutical forms (tablets, capsules, injections, etc.).

In the table below you will find listed the most suitable HPLC columns available from MZ-Analysentechnik GmbH for each European Pharmacopoeia (*Ph. Eur.*) HPLC stationary phase description. Further suitable columns can also be used for these analyses. Please contact MZ-Analysentechnik GmbH for your specific LC column needs.

Description	Number	Recommended Column available from MZ-Analysentechnik GmbH
Silica gel AD for chiral separation coated with Amylose tris (3,5-dimethylphenylcarbamate).	1171700	Daicel Chiralpak AD
Silica gel for chiral separation, cellulose derivative coated with tris (3,5-dimethylphenylcarbamate).	1110300	Daicel Chiralcel OD
Silica gel BC for chiral chromatography (Beta-Cyclodextrin).	1161300	Shinwa Ultron ES-CD Sumika Sumichiral OA-7000 Merck ChiraDex
Silica gel CR+ for chiral chromatography (crown-ether).	1192400	Daicel Crownpak CR(+)
Silica gel for chromatography.	1076900	PerfectSil 100 Sil
Silica gel for chromatography, alkyl bonded for use with highly aqueous mobile phases.	1160200	MZ-Aqua Perfect C18 GL-Sciences InertSustainSwift C18 HALO AQ-C18
Silica gel for chromatography, alkyl bonded for use with highly aqueous mobile phases, endcapped.	1176900	MZ-Aqua Perfect C18 GL-Sciences InertSustainSwift C18 HALO AQ-C18
Silica gel for chromatography, alkylsilyl, solid core, endcapped. Spherical silica particles containing a non-porous solid silica core surrounded by a thinner outer porous silica coating with alkylsilyl groups. To minimize any interaction with basic compounds it is carefully endcapped to cover most of the remaining silanol groups.	1194300	HALO C18 HALO C8 Chromanik Sunshell C18 Chromanik Sunshell RP-Aqua
Silica gel for chromatography, aminopropylmethylsilyl.	1102400	PerfectSil 120 NH2 PerfectChrom 100 NH2
Silica gel for chromatography, aminopropylsilyl.	1077000	PerfectSil 120 NH2 PerfectChrom 100 NH2
Silica gel for chromatography, Amylose derivative of.	1109800	Daicel Chiralpak IA Daicel Chiralpak ID Daicel Chiralpak IE Daicel Chiralpak IF Daicel Chiralpak IG Daicel Chiralpak IH
Silica gel for chromatography, butylsilyl. Spheroidal 300 Å; pore volume: 0.6 cm ³ /g; area: 80 m ² /g.	1076200	PerfectSil 300 C4
Silica gel for chromatography, butylsilyl, endcapped.	1170500	PerfectSil 120 C4 PerfectSil 300 C4
Silica gel for chromatography compatible with 100 % aqueous mobile phase, octadecylsilyl, endcapped.	1188400	MZ-Aqua Perfect C18 GL-Sciences InertSustainSwift C18 HALO AQ-C18
Silica gel for chromatography, crown-ether.	1178000	Daicel Crownpak CR(+) Daicel Crownpak CR-(+) Daicel Crownpak CR(-) Daicel Crownpak CR-(-)
Silica gel for chromatography, cyanosilyl.	1109900	PerfectSil Target CN-3 PerfectSil 120 CN Orbit 100 CN
Silica gel for chromatography, cyanopropylsilyl, endcapped, base-deactivated.	1194200	HALO ES-CN GL-Sciences InertSustain Cyano
Silica gel for chromatography, cyanopropylsilyl, endcapped.	1195000	PerfectSil Target CN-3 HALO ES-CN GL-Sciences InertSustain Cyano
Silica gel for chromatography, di-isobutyloctadecylsilyl.	1140000	HALO ES-C18 Zorbax StableBond C18
Silica gel for chromatography, diisopropylcyanopropylsilyl.	1168100	HALO ES-CN Zorbax StableBond CN
Silica gel for chromatography, dimethyloctadecylsilyl. Irregular; area: 300 m ² /g.	1115100	PerfectBond C18
Silica gel for chromatography, diol dihydroxypropyl, 100 Å pore size.	1110000	PerfectSil 100 Diol PerfectChrom 100 Diol
Silica gel for chromatography, dodecylsilyl, endcapped.	1179700	SMT C12
Silica gel for chromatography, hexylsilyl.	1077100	PerfectChrom 100 C6
Silica gel for chromatography, hexylsilyl, endcapped.	1174400	SMT SAM-C6

Silica gel for chromatography, hydrophilic surface has been modified to provide hydrophilic characteristics.	1077200	HALO HILIC HALO Penta-HILIC
Silica gel for chromatography, nitrile cyanopropylsilyl.	1077300	PerfectSil Target CN-3 PerfectSil 120 CN Orbit 100 CN
Silica gel for chromatography, nitrile R1 chemically bonded nitrile groups.	1077400	PerfectSil Target CN-3 PerfectSil 120 CN Orbit 100 CN
Silica gel for chromatography, nitrile R2 ultrapure silica (<20 ppm metal) with cyanopropylsilyl groups.	1119500	PerfectSil Target CN-3 PerfectSil 120 CN Orbit 100 CN
Silica gel for chromatography, nitrile, endcapped with cyanopropylsilyl groups.	1174500	HALO ES-CN GL-Sciences InertSustain Cyano
Silica gel for chromatography, octadecylsilyl.	1077500	PerfectSil Target ODS-3 HD PerfectSil Target ODS-3 PerfectSil ODS-3 PerfectSil 120 ODS-2 PerfectSil 300 C18 Orbit C18 MZ-Aqua Perfect C18
Silica gel for chromatography, octadecylsilyl R1 ultrapure silica (<20 ppm metals), pore size and C-load are indicated in the method.	1110100	PerfectSil Target ODS-3 HD PerfectSil Target ODS-3 PerfectSil ODS-3 PerfectSil 120 ODS-2 PerfectSil 300 C18 Orbit C18 MZ-Aqua Perfect C18
Silica gel for chromatography, octadecylsilyl R2 ultrapure silica; 150 Å pore size; 20% C-load; optimized for the analysis of PAHs.	1115300	MZ-PAH
Silica gel for chromatography, octadecylsilyl, base-deactivated pretreated before the bonding by careful washing and hydrolyzing most of the superficial siloxane bridges to minimize the interaction with basic components.	1077600	PerfectSil Target ODS-3 HD PerfectSil Target ODS-3 PerfectBond BDS C18
Silica gel for chromatography, octadecylsilyl, endcapped. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1115400	PerfectSil Target ODS-3 HD PerfectSil Target ODS-3 Chromanik Sunniest C18
Silica gel for chromatography, octadecylsilyl, endcapped R1 ultrapure silica (<20 ppm metal) 100 Å pore size; 19 % C-load. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1115401	Orbit 100 C18 PerfectBond ODS-HD
Silica gel for chromatography, octadecylsilyl, endcapped, base-deactivated; 100 Å pore size; 16 % C-load, pretreated before the bonding by careful washing and hydrolyzing most of the superficial siloxane bridges. To further minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1108600	PerfectSil Target ODS-3
Silica gel for chromatography, octadecylsilyl, endcapped, base-deactivated R1; pretreated before the bonding by careful washing and hydrolyzing most of the superficial siloxane bridges To further minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1162600	PerfectSil Target ODS-3 HD PerfectSil Target ODS-3
Silica gel for chromatography, octadecylsilyl, monolithic.	1154500	Merck Chromolith Performance RP-18e Merck Chromolith WP-300 RP-18
Silica gel for chromatography, octadecylsilyl, with polar embedded groups, endcapped; the particles are based on a mixture of silica chemically modified at the surface by the bonding of octadecylsilyl groups and silica chemically modified with a reagent providing a surface with chains having embedded polar groups.	1177900	MZ-Aqua Perfect C18 HALO AQ-C18
Silica gel for chromatography, octadecylsilyl, with polar incorporated groups, endcapped; the particles are based on silica, chemically modified with a reagent providing a surface with chains having polar incorporated groups and terminating octadecyl groups.	1165100	HALO RP-Amide Supelco Discovery RP-Amide C16 ACE C18-Amide
Silica gel for chromatography, octadecylsilyl, ethylene-bridged (hybrid material). Synthetic, spherical ethylene-bridged hybrid particles, containing both organic (organosiloxanes) and inorganic (silica) components.	1190500	Waters Acquity BEH C18 Kromasil EternityXT C18 Chromanik SunArmor C18 Imtakt Dacapo DX C18
Silica gel for chromatography, octadecylsilyl, extra-dense bonded, endcapped.	1188500	PerfectSil Target ODS-3 HD Orbit 100 C18 InertSil ODS-HL SMT SAM-C18 [OD-Series]
Silica gel for chromatography, octadecylsilyl, solid core, endcapped with spherical silica particles containing a non-porous solid silica core surrounded by a thin outer porous silica coating with octadecylsilyl groups. To minimize any interaction with basic compounds it is carefully endcapped to cover most of the remaining silanol groups.	1193900	HALO C18 Chromanik Sunshell C18 ACE UltraCore SuperC18
Silica gel for chromatography, octadecylsilyl, with extended pH range, endcapped (resistant to bases up to pH 11)	1196700	PerfectSil Target ODS-3 HD Kromasil EternityXT C18 Chromanik SunArmor C18 Imtakt Dacapo DX C18
Silica gel for chromatography, octylsilyl.	1077700	PerfectSil Target C8-3 HD PerfectSil Target C8-3 PerfectSil 100 C8-3 PerfectSil 120 C8 PerfectSil 300 C8 Orbit 100 C8 PerfectChrom 100 C8
Silica gel for chromatography, octylsilyl R1. Bonding of octylsilyl and methyl groups (double bonded phase).	1077701	PerfectSil Target C8-3 HD PerfectSil Target C8-3 PerfectSil 100 C8-3 PerfectSil 120 C8 PerfectSil 300 C8 Orbit 100 C8
Silica gel for chromatography, octylsilyl R3 ultrapure silica, bonding of octylsilyl groups and sterically protected with branched hydrocarbons at the silanes.	1155200	Zorbax StableBond C8
Silica gel for chromatography, octylsilyl, base-deactivated pretreated before the bonding by careful washing and hydrolyzing most of the superficial siloxane bridges to minimize the interaction with basic components.	1131600	PerfectSil Target C8-3 HD PerfectSil Target C8-3
Silica gel for chromatography, octylsilyl, endcapped. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1119600	PerfectSil Target C8-3 HD PerfectSil Target C8-3
Silica gel for chromatography, octylsilyl, endcapped, base-deactivated pretreated before the bonding by careful washing and hydrolyzing most of the superficial siloxane bridges to minimize the interaction with basic components. To further minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanols.	1148800	PerfectSil Target C8-3 HD PerfectSil Target C8-3

Silica gel for chromatography, octylsilyl, extra-dense bonded, endcapped.	1200900	PerfectSil Target C8-3 HD Orbit 100 C8 InertSustain C8 SMT SAM-C8 [O-Series]
Silica gel for chromatography, phenylhexylsilyl.	1153900	GL Sciences InertSustain PhenylHexyl HALO Phenyl-Hexyl Kromasil EternityXT PhenylHexyl
Silica gel for chromatography, phenylhexylsilyl, endcapped. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1170600	GL Sciences InertSustain PhenylHexyl HALO Phenyl-Hexyl Kromasil EternityXT PhenylHexyl
Silica gel for chromatography, phenylhexylsilyl, solid core, endcapped. Silica gel with spherical silica particles containing a non-porous solid silica core surrounded by a thin outer porous silica coating with phenylhexylsilyl groups. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1198900	HALO Phenyl-Hexyl ACE UltraCore SuperPhenylHexyl
Silica gel for chromatography, phenylsilyl.	1110200	PerfectSil 100 Phenyl-3 PerfectSil 120 Phenyl PerfectChrom 100 Phenyl
Silica gel for chromatography, phenylsilyl, R1 spherical silica; pore size: 80 Å; surface area: 180 m ² /g; C-load: 5.5%.	1075700	Zorbax StableBond Phenyl
Silica gel for chromatography, phenylsilyl, endcapped. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1154900	InertSustain Phenyl Waters XTerra Phenyl
Silica gel for chromatography, phenylsilyl, endcapped, base-deactivated.	1197900	InertSustain Phenyl
Silica gel for chromatography, (hybrid material), phenylsilyl, ethylene-bridged, endcapped. Synthetic, spherical ethylene-bridged hybrid particles containing both organic (organosiloxanes) and inorganic (silica) components, chemically modified at the surface by bonding of phenylsilyl groups. To minimize any interaction with basic compounds it's carefully endcapped to cover most of the remaining silanol groups.	1200700	Waters XTerra Phenyl
Silica gel for chromatography, propoxybenzene, endcapped.	1174600	ES Industries Sync Polar RP
Silica gel for chromatography, propylsilyl.	1170700	Zorbax StableBond C3 SMT SAM-C3 ES Industries Chromegabond C3
Silica gel for chromatography, strong anion-exchange bonding of quaternary ammonium groups; pH limit of use: 2 to 8.	1077800	Partisphere SAX Hypersil Gold SAX ES Industries Chromegabond SAX Macherey-Nagel Nucleosil SB Sepax HP-SAX
Silica gel for chromatography, strong cation-exchange bonding of sulfonic acid groups.	1161400	Partisphere SCX ES Industries Epic SCX Macherey-Nagel Nucleosil SA Sepax HP-SCX
Silica gel for chromatography, trimethylsilyl.	1115500	PerfectBond C1 PerfectChrom 100 C1
Silica for size-exclusion chromatography. 10 µm silica with a very hydrophilic surface. Pore size average: 30 nm; pH stability 2 to 8; exclusion range for proteins: 1x10 ³ to 3x10 ⁵ .	1077900	TSKgel G3000SW TSKgel G3000SWxl Shodex Protein KW-803 Sepax SRT-10 SEC-300
Silica gel OD for chiral separations.	1110300	Daicel Chiralcel OD
Silica gel OJ for chiral separations coated with cellulose tris (4-methylbenzoate).	1179800	Daicel Chiralcel OJ
Organosilica polymer, amorphous, octadecylsilyl. Synthetic, spherical hybrid particles containing both inorganic (silica) and organic (organosiloxanes) components, chemically modified at the surface by trifunctionally bonded octadecylsilyl groups.	1144200	XBridge BEH C18
Organosilica polymer, amorphous, octadecylsilyl, endcapped. Synthetic, spherical hybrid particles containing both inorganic (silica) and organic (organosiloxanes) components, chemically modified at the surface by trifunctionally bonded octadecylsilyl groups. To minimize any interaction with basic compounds, it is carefully endcapped to cover most of the remaining silanol groups.	1178600	XBridge BEH C18
Organosilica polymer for mass spectrometry, amorphous, octadecylsilyl, endcapped. Synthetic, spherical hybrid particles containing both inorganic (silica) and organic (organosiloxanes) components. To minimize any interaction with basic compounds, it is carefully endcapped to cover most of the remaining silanol groups.	1164900	XBridge BEH C18
Vinyl polymer for chromatography, amino alkyl. Spherical particles (5 µm) of a vinyl alcohol copolymer, bonding of amino alkyl groups.	1191500	Shodex Asahipak NH2P-50
Vinyl polymer for chromatography, octadecyl. Spherical particles (5 µm) of a vinyl alcohol copolymer, bonding of octadecyl groups on the hydroxyl groups.	1155400	Shodex Asahipak ODP-50
Vinyl polymer for chromatography, octadecylsilyl. Spherical particles (5 µm) of a vinyl alcohol copolymer bonded to an octadecylsilane. C-load: 17 %.	1121600	Shodex Asahipak ODP-50
Ion-exclusion resin for chromatography. A resin with sulfonic acid groups attached to a polymer lattice consisting of polystyrene crosslinked with divinylbenzene.	1131000	Concise Separations Coregel 87H3 Sepax Carbomix H
Cation-exchange resin, strong. Strong cation-exchange resin in protonated form with sulfonic acid groups attached to a polymer lattice consisting of polystyrene cross-linked with divinylbenzene.	1156800	Concise Separations Coregel 87H3 Shodex SUGAR SH1011 Shodex SUGAR SH1821 Sepax Carbomix H
Cation-exchange resin. A resin in protonated form with sulfonic acid groups attached to a polymer lattice consisting of polystyrene crosslinked with 8 % divinylbenzene. Available as spherical beads.	1016700	Concise Separations Coregel 87H3 Sepax Carbomix H
Cation-exchange resin (Calcium form), strong. Resin in calcium form with sulfonic acid groups attached to a polymer lattice consisting of polystyrene cross-linked with 8 % divinylbenzene.	1104600	Concise Separations CarboSep CHO 87C Sepax Carbomix Ca
Cation-exchange resin (Sodium form), strong. Resin in sodium form with sulfonic acid groups attached to a polymer lattice consisting of polystyrene cross-linked with divinylbenzene.	1176100	Concise Separations CarboSep CHO 87N Shodex SUGAR KS-801 to 806 Sepax Carbomix Na