

Inertsil[®] SIL-100A

Physical Properties

- Silica : 3 Series High Purity Silica Gel
- Particle Size : 3 μm, 5 μm
- Surface Area : 450 m²/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 1.05 mL/g
- Bonded Phase : None
- End-capping : None
- Carbon Loading : - %
- USP Code : L3
- pH Range : 2 ~ 7.5



Inertsil SIL-100A is a pure silica gel column available in normal phase mode. Because of the high quality of its silica gel, Inertsil SIL-100A achieves separation with sharp peaks and provides high column-to-column reproducibility. This excellent silica gel ideally designed for HPLC is the basis for "Inertsil 3-series" of GL Sciences. GL Sciences is the first company which emphasized the importance of silica-gel purity and determined the nature of the silanol impurities in the Silica gel.

GL Sciences has established a successful manufacturing process for ultra pure silica gel with smooth and rigid surface. The SEM photos of Inertsil SIL-100A and other brands' silica gel are shown as figure 1. Particles of Inertsil SIL-100A stand out by the smooth surface, uniformity in size and spherical shape. From figure 2, we can know as silanols on the silica surface interact with basic compounds, Inertsil SIL-100A retains basic compounds strongly and acidic compounds weakly.

Figure 1 : SEM photos of Inertsil SIL-100A and other brand available Silica gels

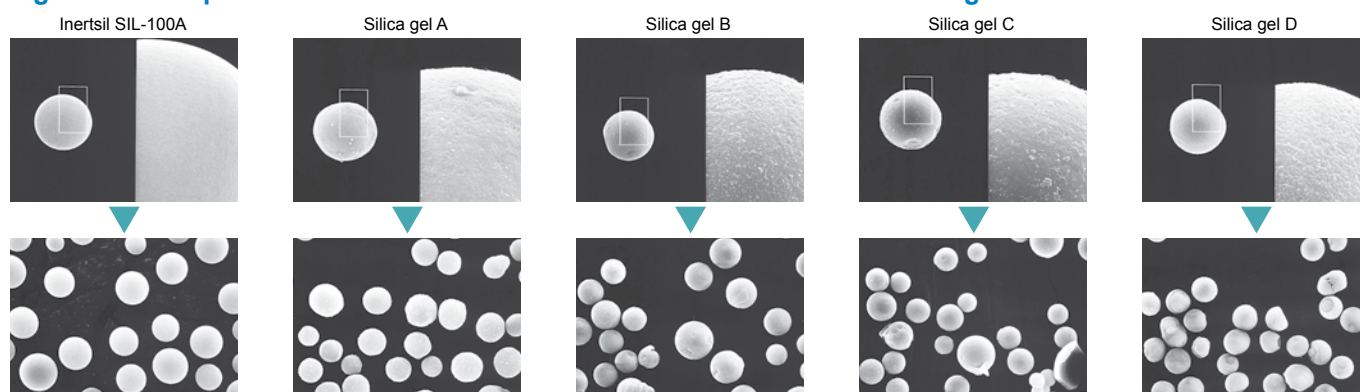
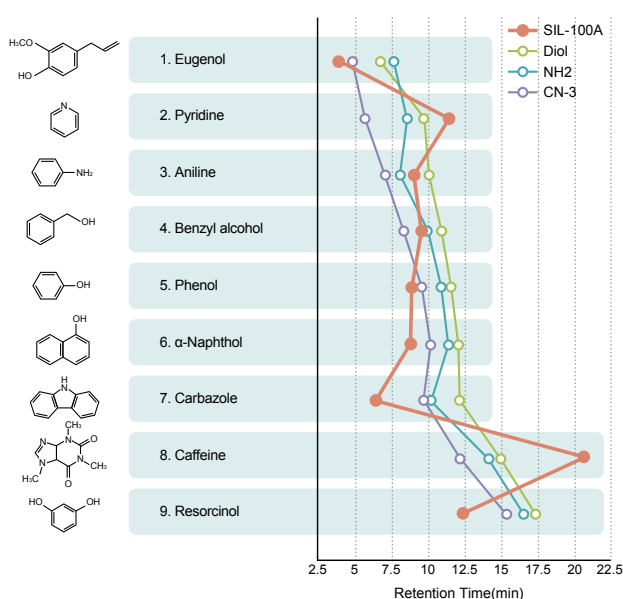
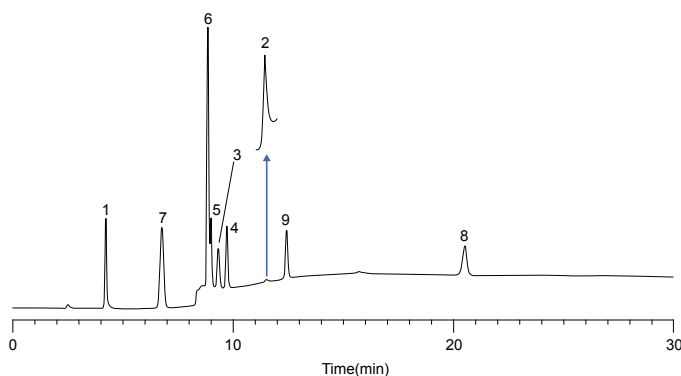


Figure 2 : Selectivity of Inertsil[™] SIL-100A

Conditions

Column : Inertsil SIL-100A (5 μm, 150 × 3.0 mm I.D.)
 Eluent : A) *n*-Hexane/Ethanol = 100/1, v/v
 B) Ethanol
 A/B = 100/0 – 30 min – 25/75, v/v
 Flow Rate : 0.4 mL/min
 Col. Temp. : 40 °C
 Detection : UV 215 nm



Analytical Columns

Particle Size: 3 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-84211	5020-84221		
	50	5020-84212	5020-84222		
	75	5020-84213	5020-84223		
	100	5020-84214	5020-84224		
	150	5020-13422	5020-13420		
	250	5020-	5020-		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-04211	5020-04221	5020-04231	5020-04241
	50	5020-04212	5020-04222	5020-04232	5020-04242
	75	5020-04213	5020-04223	5020-04233	5020-01700
	100	5020-04214	5020-04224	5020-01703	5020-04244
	150	5020-04215	5020-04225	5020-04235	5020-01701
	250	5020-04216	5020-04226	5020-04236	5020-01702
	Particle Size: 5 µm	Length \ I.D. (mm)	1.0	1.5	
33		5020-84311	5020-84321		
50		5020-84312	5020-84322		
75		5020-84313	5020-84323		
100		5020-84314	5020-84324		
150		5020-13412	5020-13410		
250		5020-84316	5020-84326		
Length \ I.D. (mm)		2.1	3.0	4.0	4.6
33		5020-04311	5020-04321	5020-04331	5020-04341
50		5020-04312	5020-04322	5020-04332	5020-04342
75		5020-04313	5020-04323	5020-04333	5020-04343
100		5020-04314	5020-04324	5020-04334	5020-04344
150		5020-04315	5020-04325	5020-04335	5020-01711
250		5020-04316	5020-04326	5020-04336	5020-01712

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.)		Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)	
			Particle Size		Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-19227	5020-19226	5020-19277	5020-19276
1.5, 2.1		1.5	5020-19327	5020-19326	5020-19377	5020-19376
2.1, 3.0		3.0	5020-19127	5020-19126	5020-19177	5020-19176
4.0, 4.6		4.0	5020-19027	5020-19026	5020-19077	5020-19076
2.1, 3.0		20	3.0	5020-19527	5020-19526	5020-19577
4.0, 4.6	4.0		5020-19427	5020-19426	5020-19477	5020-19476
Holder for Cartridge Guard Column E			For 10 mm Length		5020-08500	
			For 20 mm Length		5020-08550	

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Reversed Phase Columns

HILIC Columns

Normal Phase Columns

SEC Columns

Ion Exchange Columns

Application Specific Columns

Guard Columns

Preparative Columns

Capillary Columns

Applications

Cat. No. Index

Inertsil® SIL-150A

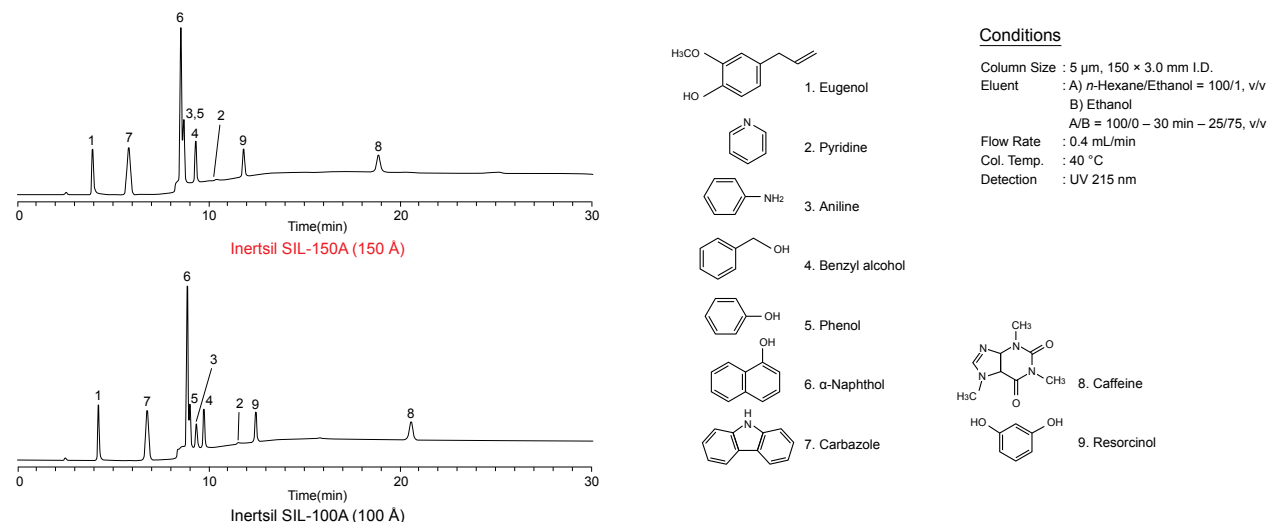
Physical Properties

- Silica : 2 Series High Purity Silica Gel
- Particle Size : 5 µm
- Surface Area : 320 m²/g
- Pore Size : 150 Å (15 nm)
- Pore Volume : 1.20 mL/g
- Bonded Phase : None
- End-capping : None
- Carbon Loading : - %
- USP Code : L3
- pH Range : 2 ~ 7.5



Inertsil SIL-150A is ultra pure silica gel column, and this ultra pure silica gel contains very low level of metal impurities and is durable and free from dents and cracks which can cause premature column failure. Compared to Inertsil SIL-100A, the silica's surface area is smaller (320 m²/g). Retentivity of Inertsil SIL-150A is weaker than that of Inertsil SIL-100A. (Figure 1)

Figure 1 : Comparison of retentivity and selectivity between Inertsil® SIL-150A and Inertsil® SIL-100A



Analytical Columns

Particle Size: 5 µm	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	150	5020-01021	5020-01022	5020-01023	5020-01024
	250	5020-01025	5020-01026	5020-01027	5020-01028

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.)	Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)
			Particle Size	Particle Size
			5 µm	5 µm
2.1, 3.0	10	3.0	5020-19139	5020-19189
4.0, 4.6		4.0	5020-19039	5020-19089
2.1, 3.0	20	3.0	5020-19539	5020-19589
4.0, 4.6		4.0	5020-19439	5020-19489
Holder for Cartridge Guard Column E			For 10 mm Length	5020-08500
			For 20 mm Length	5020-08550

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Inertsil® WP300 SIL

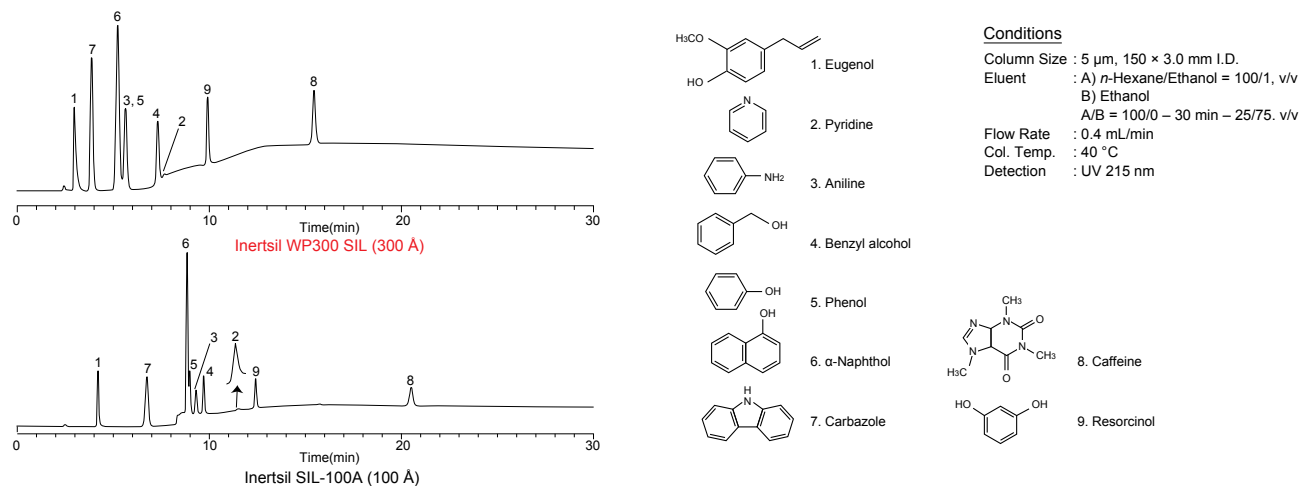
Physical Properties

- Silica : High Purity Silica Gel
- Particle Size : 5 µm
- Surface Area : 150 m²/g
- Pore Size : 300 Å (30 nm)
- Pore Volume : 1.05 mL/g
- Bonded Phase : None
- End-capping : None
- Carbon Loading : - %
- USP Code : L3
- pH Range : 2 ~ 7.5



Inertsil WP300 SIL is pure silica gel phase with wide pores(300 Å). It is available for analysing compounds including large molecules. As the pore becomes wider, the surface area of silica gel is smaller. Since the interactions between the analyte and silica gel occur on the silica surface, smaller surface area means less interactions and faster elution. In the figure below, Inertsil WP300 SIL and Inertsil SIL-100A are compared to see their separation and eluting speed. The pore size of Inertsil SIL-100A is 100 Å and the surface area is 450 m²/g. As shown, Inertsil WP300 SIL elutes faster than Inertsil SIL-100A though their separating patterns are similar.

Figure 1 : Comparison of selectivity and retentivity between Silica gel columns with different pore size.



Analytical Columns

Particle Size: 5 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-86011	5020-86021		
50	5020-86012	5020-86022			
75	5020-86013	5020-86023			
100	5020-86014	5020-86024			
150	5020-86015	5020-86025			
250	5020-86016	5020-86026			
Particle Size: 5 µm	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-06011	5020-06021	5020-06031	5020-06041
50	5020-06012	5020-06022	5020-06032	5020-06042	
75	5020-06013	5020-06023	5020-06033	5020-06043	
100	5020-06014	5020-06024	5020-06034	5020-06044	
150	5020-06015	5020-06025	5020-06035	5020-06045	
250	5020-06016	5020-06026	5020-06036	5020-06046	

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.

Cartridge Guard Column E

I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.)	Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)
			Particle Size	Particle Size
1.0	10	1.0	5020-19232	5020-19282
		1.5	5020-19332	5020-19382
		3.0	5020-19132	5020-19182
		4.0	5020-19032	5020-19082
2.1, 3.0	20	3.0	5020-19532	5020-19582
		4.0	5020-19432	5020-19482
		Holder for Cartridge Guard Column E		For 10 mm Length
			For 20 mm Length	5020-08550

* End-fittings are 1/16" Waters-compatible.

* For maximum operating pressure information, please refer to page 46.