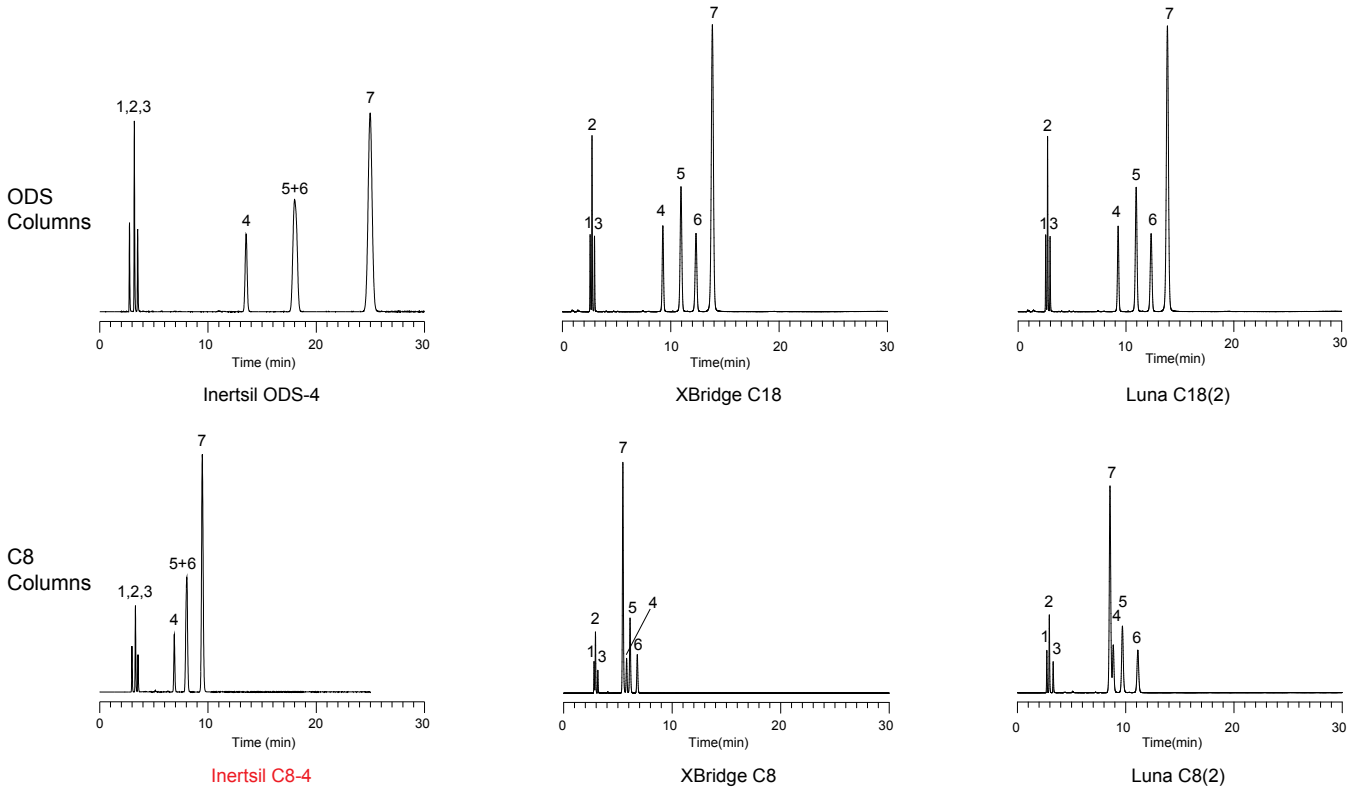
Inertsil® C8-4

Physical Properties

- **Silica** : **3 Series High Purity Silica Gel**
- **Particle Size** : **2 µm, 3 µm, 5 µm**
- **Surface Area** : **450 m^2/g**
- **Pore Size** : **100 Å (10 nm)**
- **Pore Volume** : **1.05 mL/g**
- **Bonded Phase** : **Octyl Groups**
- **End-capping** : **Yes**
- **Carbon Loading** : **5 %**
- **USP Code** : **L7**
- **pH Range** : **2 ~ 7.5**

Many chromatographers prefer a C8 column when an ODS phase shows excessive retention values. Inertsil C8-4 provides the same separation pattern (selectivity) and extreme inertness to any type of compounds just like Inertsil ODS-4, which enables easy method transfer from ODS-4 to C8-4 while other commercially available ODS and C8 columns can show dramatically different selectivity even though they are part of the same brand/series.

Figure 1 : Comparison of Separation Pattern between ODS and C8 Columns



Conditions

Column Size	: 5 µm, 250 × 4.6 mm I.D.	1. Uracil	(0.005 mg/mL)
Eluent	: A) CH_3OH	2. Caffeine	(0.04 mg/mL)
	B) H_2O	3. Phenol	(0.08 mg/mL)
	A / B = 80/20, v/v	4. *n*-Butylbenzene	(1.12 mg/mL)
Flow Rate	: 1.0 mL/min	5. *o*-Terphenyl	(0.04 mg/mL)
Col. Temp.	: 40 °C	6. *n*-Amylbenzene	(1.37 mg/mL)
Detection	: UV 254 nm	7. Triphenylene	(0.014 mg/mL)
Injection Vol.	: 5 µL		

Analytical Columns

	Length \ I.D. (mm)	2.1	3.0	
Particle Size: 2 µm	30	5020-81280	5020-81290	
	50	5020-81282	5020-81292	
	75	5020-81283	5020-81293	
	100	5020-81284	5020-81294	
	150	5020-81285	5020-81295	
	Length \ I.D. (mm)	2.1	3.0	4.6
HPSeries Particle Size: 3 µm 50 MPa (500 Bar)	30	5020-14071	5020-14074	5020-14077
	50	5020-14072	5020-14075	5020-14078
	75	5020-14073	5020-14076	5020-14079
	100	5020-14051	5020-14054	5020-14057
	150	5020-14052	5020-14055	5020-14058
	250	5020-14053	5020-14056	5020-14059

* End-fittings are 1/16" Waters-compatible.
* UHPLC compatible end-fittings are also available upon request for UHPLC systems (Ex: UPLC) to avoid dead volume.
* Indicate "UP Type end-fittings" when ordering. (Please note that UP type is not available for a 4.6 mm I.D. column)
* For maximum operating pressure information, please refer to page 46.

	Length \ I.D. (mm)	1.0	1.5		
Particle Size: 3 µm	30	5020-81261	5020-81271		
	50	5020-81262	5020-81272		
	75	5020-81263	5020-81273		
	100	5020-81264	5020-81274		
	150	5020-81265	5020-81275		
	250	5020-81266	5020-81276		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	30	5020-03971	5020-03978	5020-03985	5020-03992
	50	5020-03972	5020-03979	5020-03986	5020-03993
	75	5020-03973	5020-03980	5020-03987	5020-03994
	100	5020-03974	5020-03981	5020-03988	5020-03995
	125	5020-03977	5020-03984	5020-03991	5020-03998
	150	5020-03975	5020-03982	5020-03989	5020-03996
	250	5020-03976	5020-03983	5020-03990	5020-03997
	Length \ I.D. (mm)	1.0	1.5		
Particle Size: 5 µm	30	5020-81221	5020-81231		
	50	5020-81222	5020-81232		
	75	5020-81223	5020-81233		
	100	5020-81224	5020-81234		
	150	5020-81225	5020-81235		
	250	5020-81226	5020-81236		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	30	5020-04051	5020-04061	5020-04071	5020-04081
	50	5020-04052	5020-04062	5020-04072	5020-04082
	75	5020-04053	5020-04063	5020-04073	5020-04083
	100	5020-04054	5020-04064	5020-04074	5020-04084
	125	5020-04057	5020-04067	5020-04077	5020-04080
	150	5020-04055	5020-04065	5020-04075	5020-04085
	250	5020-04056	5020-04066	5020-04076	5020-04086

* 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	5020-19247	5020-19246	5020-19297	5020-19296
1.5, 2.1		1.5	5020-19347	5020-19346	5020-19397	5020-19396
2.1, 3.0		3.0	5020-19147	5020-19146	5020-19197	5020-19196
4.0, 4.6		4.0	5020-19047	5020-19046	5020-19097	5020-19096
2.1, 3.0	20	3.0	5020-19547	5020-19546	5020-19597	5020-19596
4.0, 4.6		4.0	5020-19447	5020-19446	5020-19497	5020-19496
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.

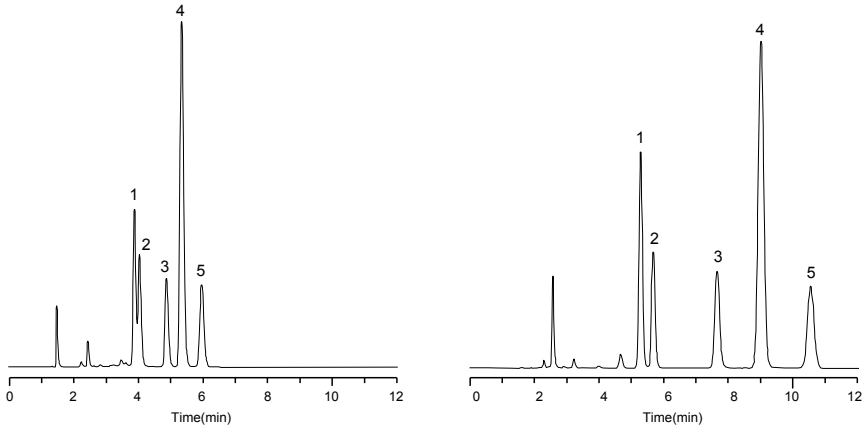
Inertsil® C8-3

Physical Properties

- **Silica** : 3 Series High Purity Silica Gel
- **Particle Size** : 2 µm, 3 µm, 5 µm, 10 µm
- **Surface Area** : 450 m^2/g
- **Pore Size** : 100 Å (10 nm)
- **Pore Volume** : 1.05 mL/g
- **Bonded Phase** : Octyl Groups
- **End-capping** : Yes
- **Carbon Loading** : 9 %
- **USP Code** : L7
- **pH Range** : 2 ~ 7.5

The same base silica gel and bonding technology that is used for Inertsil ODS-3 is also employed for Inertsil C8-3.
The difference between the two phases is just the length of the hydrocarbon ligands. As shown in figure 2, 10 µm particle size columns are also available to meet the requirement of various pharmacopeia methods.
We recommend InertSustain C8 columns for all new method development.

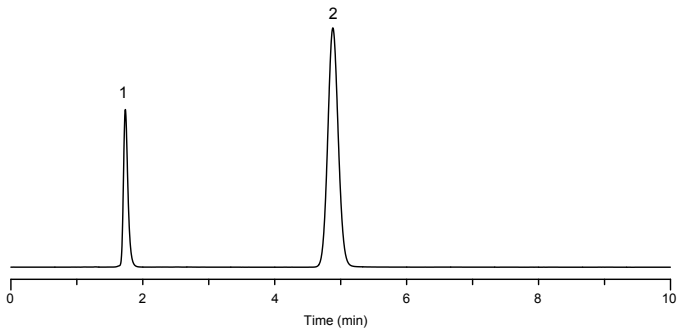
Figure 1 : Comparison of Retentivity between Inertsil® ODS-3 and Inertsil® C8-3



Conditions

Column Size: 5 µm, 150 × 4.6 mm I.D.
Eluent : A) CH_3CN
B) H_2O
A/B = 70/30, v/v
Flow Rate : 1.0 mL/min
Col. Temp. : 40 °C
Detection : UV 254 nm
Sample : 1. Naphthalene
2. Ethylbenzene
3. n-Propylbenzene
4. Anthracene
5. n-Butylbenzene

Figure 2 : Analysis of Losartan Potassium and Hydrochlorothiazide Tablets, Dissolution Test (Based on the Condition of United States Pharmacopeia 36-NF31)



Conditions

Column : Inertsil C8-3 (10 µm, 250 × 4.6 mm I.D.)
Eluent : A) CH_3CN
B) 10 mM KH_2PO_4 (pH 2.5, H_3PO_4)
A/B = 40/60, v/v
Flow Rate : 2.3 mL/min
Col. Temp. : 35 °C
Detection : UV 230 nm
Injection Vol. : 20 µL
Sample : 1. Hydrochlorothiazide (14 mg/L)
2. Losartan potassium (60 mg/L)

Analytical Columns

	Length \ I.D. (mm)	2.1	3.0	
Particle Size: 2 µm	30	5020-84930	5020-84935	
	50	5020-84931	5020-84936	
	75	5020-84932	5020-84937	
	100	5020-84933	5020-84938	
	150	5020-84934	5020-84939	
	Length \ I.D. (mm)	2.1	3.0	4.6
HPSeries Particle Size: 3 µm 50 MPa (500 Bar)	30	5020-14101	5020-14104	5020-14107
	50	5020-14102	5020-14105	5020-14108
	75	5020-14103	5020-14106	5020-14109
	100	5020-14031	5020-14034	5020-14037
	150	5020-14032	5020-14035	5020-14038
	250	5020-14033	5020-14036	5020-14039

* End-fittings are 1/16" Waters-compatible.
* UHPLC compatible end-fittings are also available upon request for UHPLC systems (Ex: UPLC) to avoid dead volume.
* Indicate "UP Type end-fittings" when ordering. (Please note that UP type is not available for a 4.6 mm I.D. column)
* For maximum operating pressure information, please refer to page 46.

	Length \ I.D. (mm)	1.0	1.5		
Particle Size: 3 µm	33	5020-84811	5020-84821		
	50	5020-84812	5020-84822		
	75	5020-84813	5020-84823		
	100	5020-84814	5020-84824		
	150	5020-13522	5020-13520		
	250	5020-	5020-		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-04811	5020-04821	5020-04831	5020-04841
	50	5020-04812	5020-04822	5020-04832	5020-04842
	75	5020-04813	5020-04823	5020-04833	5020-01910
	100	5020-04814	5020-04824	5020-01913	5020-04844
	125	5020-04817	5020-04827	5020-04837	5020-04845
	150	5020-04815	5020-04825	5020-04835	5020-01911
	250	5020-04816	5020-04826	5020-04836	5020-01912
	Length \ I.D. (mm)	1.0	1.5		
Particle Size: 5 µm	33	5020-84911	5020-84921		
	50	5020-84912	5020-84922		
	75	5020-84913	5020-84923		
	100	5020-84914	5020-84924		
	150	5020-13512	5020-13510		
	250	5020-84916	5020-84926		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-04911	5020-04921	5020-04931	5020-04941
	50	5020-04912	5020-04922	5020-04932	5020-04942
	75	5020-04913	5020-04923	5020-04933	5020-04943
	100	5020-04914	5020-04924	5020-04934	5020-04944
	125	5020-04917	5020-04927	5020-04935	5020-04945
	150	5020-04915	5020-04925	5020-01902	5020-01900
	250	5020-04916	5020-04926	5020-01903	5020-01901
	Length \ I.D. (mm)	4.6			
Particle Size: 10 µm	150	5020-01641			
	250	5020-01642			

* End-fittings are 1/16" Waters-compatible.
* For maximum operating pressure information, please refer to page 46.

Cartridge Guard Column E

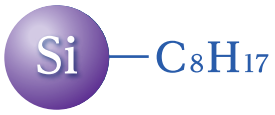
I.D. of the Analytical Column Applicable (mm)	Length (mm)	I.D. (mm)	Replacement Cartridge E Guard Column (2 EA.)		Cartridge E Holder / Cartridge Set (2 Cartridge E Guard Columns & 1 Holder)	
			Particle Size		Particle Size	
			3 µm	5 µm	3 µm	5 µm
1.0	10	1.0	5020-19215	5020-19214	5020-19265	5020-19264
1.5, 2.1		1.5	5020-19315	5020-19314	5020-19365	5020-19364
2.1, 3.0		3.0	5020-19115	5020-19114	5020-19165	5020-19164
4.0, 4.6		4.0	5020-19015	5020-19014	5020-19065	5020-19064
2.1, 3.0	20	3.0	5020-19515	5020-19514	5020-19565	5020-19564
4.0, 4.6		4.0	5020-19415	5020-19414	5020-19465	5020-19464
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® C8

Physical Properties

- **Silica : 2 Series High Purity Silica Gel**
- **Particle Size : 5 µm**
- **Surface Area : 320 m^2/g**
- **Pore Size : 150 Å (15 nm)**
- **Pore Volume : 1.20 mL/g**
- **Bonded Phase : Octyl Groups**
- **End-capping : Yes**
- **Carbon Loading : 10.5 %**
- **USP Code : L1**
- **pH Range : 2 ~ 7.5**



Inertsil C8 columns have a pore size of 150 Å and it is recommended for rapid analysis of highly hydrophobic compounds. We recommend InertSustain C8 or Inertsil C8-4 columns for all new method development.

Analytical Columns

	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
Particle Size: 5 µm	150	5020-01221	5020-01222	5020-01223	5020-01224
	250	5020-01225	5020-01226	5020-01227	5020-01228

* 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	5020-19136	5020-19186
4.0, 4.6		4.0	5020-19036	5020-19086
2.1, 3.0	20	3.0	5020-19536	5020-19586
4.0, 4.6		4.0	5020-19436	5020-19486
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.