

Inertsil® Ph-3

Physical Properties

- Silica : 3 Series High Purity Silica Gel
- Particle Size : 2 µm, 3 µm, 5 µm
- Surface Area : 450 m²/g
- Pore Size : 100 Å (10 nm)
- Pore Volume : 1.05 mL/g
- Bonded Phase : Phenyl Groups
- End-capping : None
- Carbon Loading : 9.5 %
- USP Code : L11
- pH Range : 2 ~ 7.5



Just like InertSustain Phenyl, Inertsil Ph-3 have phenyl groups directly bonded to the silica gel which provides pure reverse phase characteristics that are critical to resolving highly polar compounds like acidic and basic pharmaceuticals. The near perfect phenyl phase coverage on this material results in symmetric, narrow peaks for even the most polar compounds while using simple eluents like aqueous acetonitrile or methanol.

Figure 1 : Comparison of Selectivity with Inertsil® ODS-3

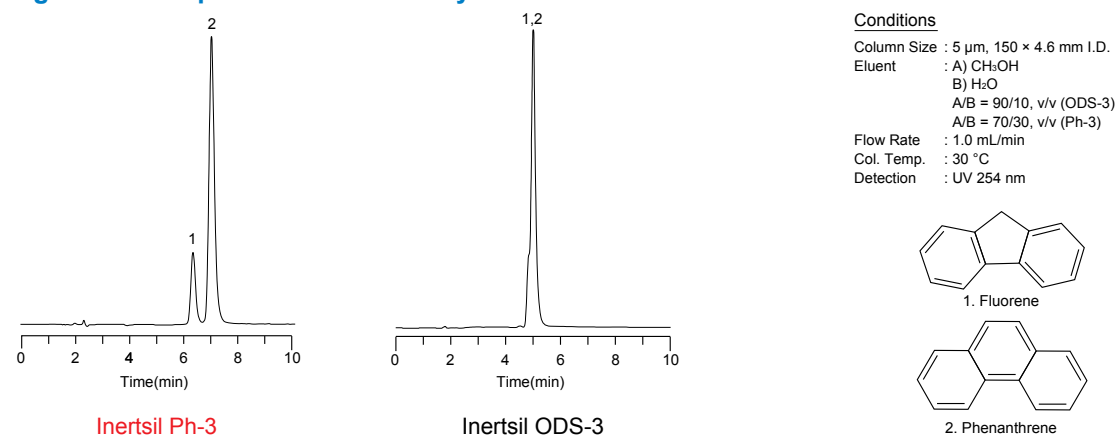
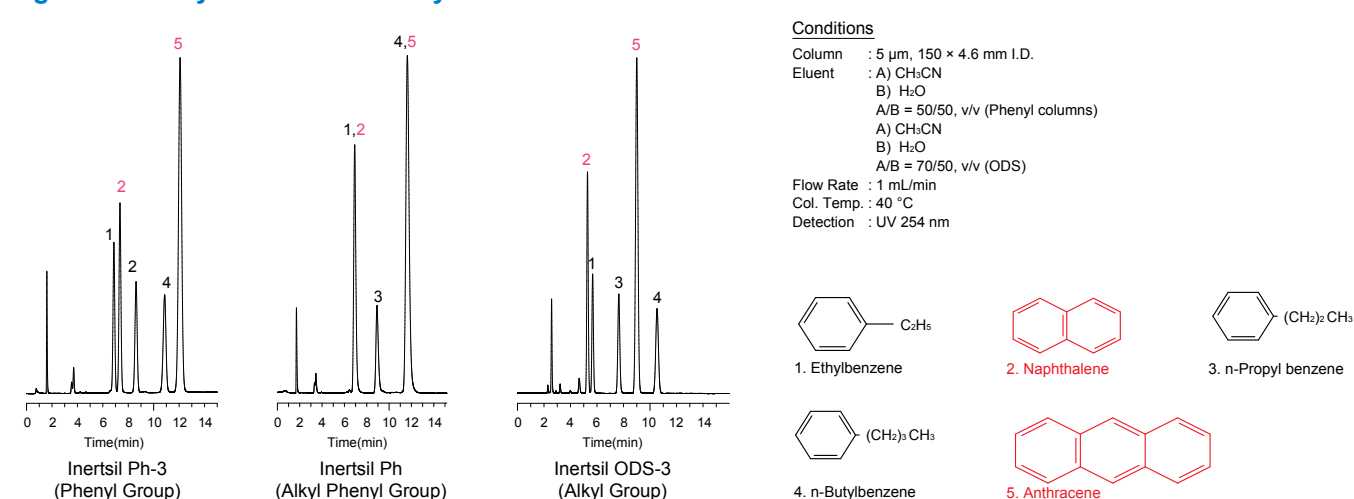


Figure 2 : Analysis of Aromatic Hydrocarbons with various Bonded Phases



Analytical Columns

Particle Size: 2 µm	Length \ I.D. (mm)	2.1	3.0	
	30	5020-85130	5020-85135	
	50	5020-85131	5020-85136	
	75	5020-85132	5020-85137	
	100	5020-85133	5020-85138	
HPSeries Particle Size: 3 µm 50 MPa (500 Bar)	Length \ I.D. (mm)	2.1	3.0	4.6
	30	5020-14111	5020-14114	5020-14117
	50	5020-14112	5020-14115	5020-14118
	75	5020-14113	5020-14116	5020-14119
	100	5020-14041	5020-14044	5020-14047
	150	5020-14042	5020-14045	5020-14048
	250	5020-14043	5020-14046	5020-14049

* 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.

Particle Size: 3 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-85011	5020-85021		
	50	5020-85012	5020-85022		
	75	5020-85013	5020-85023		
	100	5020-85014	5020-85024		
	150	5020-13622	5020-13620		
	250	5020-	5020-		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-05011	5020-05021	5020-05031	5020-05041
	50	5020-05012	5020-05022	5020-05032	5020-05042
	75	5020-05013	5020-05023	5020-05033	5020-01930
100	5020-05014	5020-05024	5020-01933	5020-05044	
150	5020-05015	5020-05025	5020-05035	5020-01931	
250	5020-05016	5020-05026	5020-05036	5020-01932	
Particle Size: 5 µm	Length \ I.D. (mm)	1.0	1.5		
	33	5020-85111	5020-85121		
	50	5020-85112	5020-85122		
	75	5020-85113	5020-85123		
	100	5020-85114	5020-85124		
	150	5020-13612	5020-13610		
	250	5020-85116	5020-85126		
	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	33	5020-05111	5020-05121	5020-05131	5020-05141
	50	5020-05112	5020-05122	5020-05132	5020-05142
	75	5020-05113	5020-05123	5020-05133	5020-05143
	100	5020-05114	5020-05124	5020-05134	5020-05144
	150	5020-05115	5020-05125	5020-01922	5020-01920
	250	5020-05116	5020-05126	5020-01923	5020-01921

* 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	5020-19217	5020-19216	5020-19267	5020-19266
1.5, 2.1		1.5	5020-19317	5020-19316	5020-19367	5020-19366
2.1, 3.0		3.0	5020-19117	5020-19116	5020-19167	5020-19166
4.0, 4.6		4.0	5020-19017	5020-19016	5020-19067	5020-19066
2.1, 3.0	20	3.0	5020-19517	5020-19516	5020-19567	5020-19566
4.0, 4.6		4.0	5020-19417	5020-19416	5020-19467	5020-19466
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

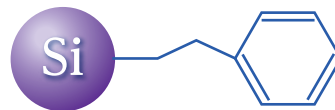
Applications

Cat. No. Index

Inertsil® Ph

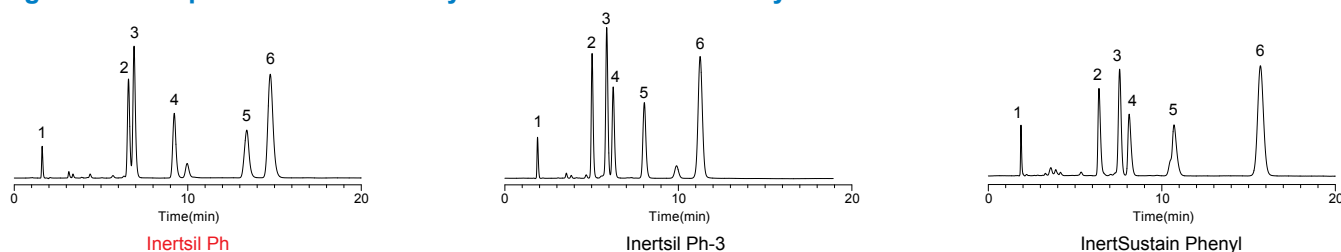
Physical Properties

- 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 : Phenethyl Groups
- End-capping : Yes
- Carbon Loading : 10 %
- USP Code : L11
- pH Range : 2 ~ 7.5



Inertsil Ph has phenethyl groups bonded to silica gel which offers weak pi-pi interactions. As it is modified with phenethyl groups, hydrophobic interactions between alkyl chain and analytes play an important role in separation as well as pi-pi interactions. To change the selectivity or elution pattern drastically, InertSustain Phenyl is recommended as it provides strong pi-pi interactions, resulting in resolving compounds that could not be separated on a C18 or C8 phase.

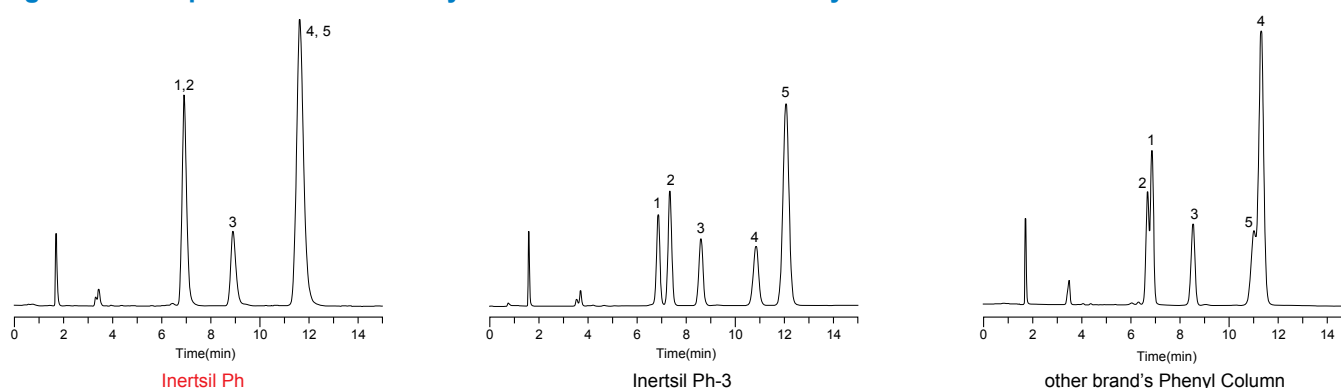
Figure 1 : Comparison of Selectivity with GL Sciences' Phenyl columns



Conditions

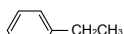
Column Size : 5 µm, 150 × 4.6 mm I.D. Sample :
 Eluent : A) CH₃OH 1. Uracil
 B) H₂O 2. Ethylbenzene
 A/B = 60/40, v/v 3. Naphthalene
 Flow Rate : 1.0 mL/min 4. Propylbenzene
 Col. Temp. : 40 °C 5. Butylbenzene
 Detection : UV 254 nm 6. Anthracene

Figure 2 : Comparison of Selectivity between other brand's Phenyl column



Conditions

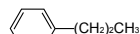
Column Size : 5 µm, 150 × 4.6 mm I.D.
 Eluent : A) CH₃CN
 B) H₂O
 A/B = 50/50, v/v
 Flow Rate : 1.0 mL/min
 Col. Temp. : 40 °C
 Detection : UV 254 nm



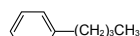
1. Ethylbenzene



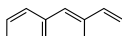
2. Naphthalene



3. n-Propylbenzene



4. n-Buthylbenzene



5. Anthracene

Analytical Columns

Particle Size: 5 µm	Length \ I.D. (mm)	2.1	3.0	4.0	4.6
	150	5020-01321	5020-01322	5020-01323	5020-01324
	250	5020-01325	5020-01326	5020-01327	5020-01328

* 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	5020-19137	5020-19187
4.0, 4.6		4.0	5020-19037	5020-19087
2.1, 3.0	20	3.0	5020-19537	5020-19587
4.0, 4.6		4.0	5020-19437	5020-19487
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.



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