

Specifically qualified HPLC columns for GLP/GMP Compliance validation

Inertsil[™] ODS-4V *"3 μm, 5 μm"*

Inertsil ODS-4 columns have proven superior worldwide for analysis of strong pharmaceutical bases, acids, chelating compounds, and zwitterions. The long-awaited validated Inertsil ODS-4V has now been added to our product lineup. Each Inertsil ODS-4V is delivered with a manufacturers' Validation Certificate showing the detailed results of every QA and QC step in manufacturing.

By choosing Inertsil ODS-4V, you can be assured that you are using one of the most trusted and enduring HPLC columns for validation.

Benefits:

- Symmetric peaks for basic, acidic and chelating compounds.
- Improved Peak Shapes and Heights.
- Enhancing Sensitivity.
- High Resolution.
- ♦ Fast Re-equilibration.
- Compatible with 100% Aqueous Eluents.

Physical Properties

Silica:	High Purity Spherical Silica Gel
Particle Size:	3μm, 5μm
Surface Area:	450 m² / g
Pore Size:	100 Å
Pore Volume:	1.05 mL/g
Bonded Phase:	Octadecyl groups
End-capping:	Complete
Carbon Loading:	11 %
USP Code:	L1

Manufacturer's Validation Certificate Sheet



	Inertsil ODS-4V 5µr	n Lot.No.VF5-3143	
			Inspected by ootsuka
Analysis of Silica	Gel		
		Specification	Result
Median Particle Size	[µm]	4.4 - 5.0	4.6
Surface Area	[m ² /g]	420 - 450	430
Median Pore Diameter	[Å]	94 - 102	101
Pore Volume	[mL/g]	1.00 - 1.10	1.09
Atomic Emission	[ppm]		
Fe		< 10	1.2
Na		< 10	< 0.5
Al		< 10	0.8
Ti		< 1	< 0.5
Analysis of Inerts	il ODS-4V		
		Specification	Result
USP Code		LI	
Carbon Content	[%]	10.6 - 11.6	11.0
Chromatographic	Results		
		Specification	Result
Data 1 : k'Amythenzene	/ k'BuryBenzene	1.60 - 1.65	1.62
Data 1 : k'Triphenylene	/ k'o-Terphenyl	1.30 - 1.40	1.38
Data 1 : k'Caffeine	/ k'phenol	0.45 - 0.50	0.46
Data 2 : k'Brilliant Blue FCF	/ k'phenol	0.55 - 0.65	0.61
Data 3 : k'2-Aminopyridine	/ k'3-Aminopyridine	1.80 - 2.00	1.96
Data 4 : k°2,3-Dihydroxynapht	alene / k ¹ 2,7-Dihydrenynaphthalene	2.00 - 2.10	2.04
Data 1	Data 2	Data 3	Data 4
20 40 Time (min) a 159-4.6mm.D. cr(10.0HK.0-0%10 ac c11.0HK.0-0%10 ac c11.0HK.0-0%10 cr(10.0HK.0	60 0 2 4 6 8 10 12 14 Tree (min) Colling: 10 4 6 0 10 12 14 Tree (min) Colling: 10 4 6 0 10 12 14 Disease (Classical Colling) Distance (Classical Coll	Col Size Colombia Col	0 2 4 6 8 10 Time (rms) clkimini 10.6 Amn.D. 10.6 Amn

Selectivity Test

The chromatograms of the selectivity test are shown below.

Sample No.4, *n*-Butylbenzene and Sample No.6, *n*-Amylbenzene were used to determine the hydrophobic property of the column. *n*-Amylbenzene elutes later than *n*-Butylbenzene when the hydrophobicity of the column is high.

Stereoselectivity is indicated by o-Terphenyl (No.5) and Triphenylene (No.7). O-Terphenyl has a twisted tertiary structure and Triphenylene has a planar structure. Triphenylene elutes later than o-Terphenyl when the stereoselectivity of the column is high.

For supplying extremely stable HPLC columns, we also employ other quality control tests to check and confirm the quality of the columns from various angles.



Conditions:						
Column	: Inertsil ODS-4V					
	(5 μm,150×4.6	5 mml.D.)				
Eluent	: CH ₃ OH/H ₂ O=70/30					
Flow Rate	: 1.0 mL/min					
Col. Temp.	: 40 °C					
Detection	: UV254 nm					
Injection Vol.	: 5 μL					
Sample	1. Uracil	0.005 mg/mL				
	2. Caffeine	0.04 mg/mL				
	3. Phenol	0.08 mg/mL				
	4. Butylbenzene	e 1.12 mg/mL				
	5. Amylbenzene 1.37 mg/mL					
	6. o-Terphenyl	0.04 mg/mL				
	7. Triphenylene	0.014 mg/mL				

Inertsil[™] ODS-4V 3 µm Ordering information

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Length/ID (mm)	2.1		3.0		4.0		4.6	
50	5020-30212		5020-30222		5020-30232		5020-30242	
75	5020-30213		5020-30223		5020-30233		5020-30243	
100	5020-30214		5020-30224		5020-30234		5020-30244	
150	5020-30215		5020-30225		5020-30235		5020-30245	
250	5020-30216		5020-30226		5020-30236		5020-30246	

Inertsil[™] ODS-4V 5 µm Ordering information

Length/ID (mm)	3.0		4.0		4.6	
150	5020-10921		5020-10911		5020-10901	
250	5020-10922		55020-10912		5020-10902	

 The use of Inertsil ODS-4V columns provides an extra measure of assurance of consistent performance from column to column and batch to batch.

Inertsil ODS-4V columns are also available in a set of three packed with available to choose your preferable combination from 3 different batches to assist in reproducibility studies.

The specification and the column type are subject to change without notice due to continual improvements.

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