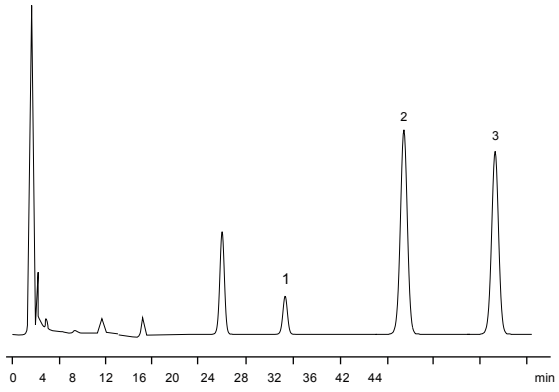
Ultisil® SiO_2

Ultisil SiO_2 column uses ultra-high purity type B silica particles with no metal contents. SiO_2 column can separate strong hydrophilic compounds in high concentration organic solvent in reversed phase. Good result can be obtained for the analysis of polar compounds which are prone to peak tailing in reversed phase.

Ultisil® SiO_2

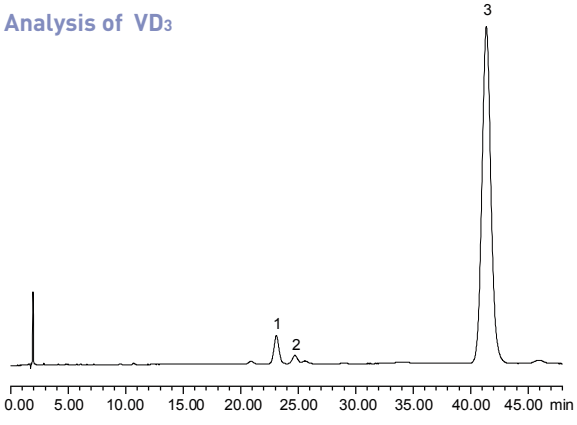
Structural Formula	
pH Range	2.0-8.0
Particle Size	3 μm, 5 μm, 10 μm
Surface Area(m^2/g)	320(120 Å), 90(300Å)
Carbon Loading(%)	N/A
USP List	L3
Endcapped	No

Analysis of VD_2



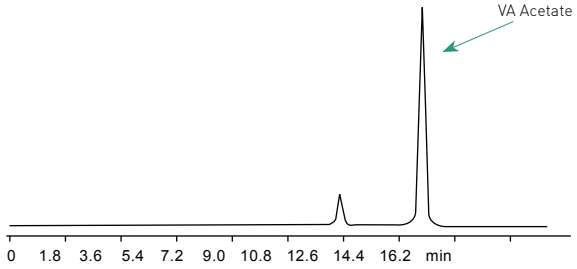
Column:	Ultisil® SiO_2, 4.6 ×250 mm, 5 μm
Mobile Phase:	Hexane / isopropanol＝997/3
Flow Rate:	2.0 mL/min
Detector:	254 nm
Temperature:	30°C
Injection Volume:	1. Facade VD_2 2. Internal Standard 3. VD_2

Analysis of VD_3



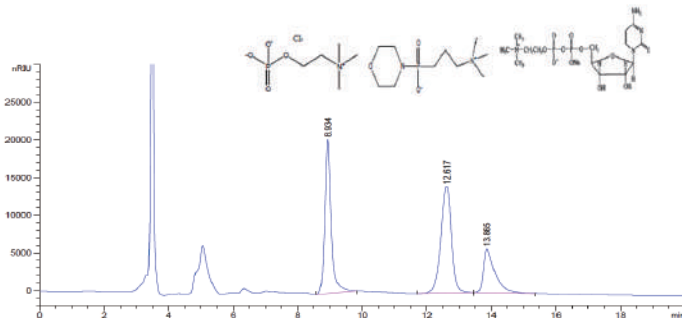
Column:	Ultisil® SiO_2, 4.6 ×250 mm, 5 μm
Mobile Phase:	N-hexane / n-amyl alcohol=99.7/0.3
Detector:	254 nm
Temperature:	30°C
Flow Rate:	2.0 mL/min
Injection Volume:	1. Facade VD_3 2. trans VD_3 3. VD_2

Analysis of VA Acetate



Column:	Ultisil® SiO_2, 4.6 ×250 mm, 5 μm
Mobile Phase:	N-hexane / isopropanol=99.8/0.2
Detector:	326 nm
Temperature:	16°C
Flow rate:	1.0 mL/min
Sample is dissolved with n-hexane.	

Separation of chlorophosphorylcholine, Phosphorylcholine morpholine and Citicoline Sodium



Column:	Ultisil® SiO_2, 4.6 ×250 mm, 5 µm
Mobile Phase:	Acetonitrile / water/ glacial acetic acid = 60/40/2
Detector:	RID
Temperature:	35°C
Flow rate:	1.0 mL/min
Injection Volume:	10 µL

Ordering Information

Ultisil® SiO_2

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300	10mm length	
3 µm 120 Å	2.1	H00200-21009	H09200-21009	H00200-21010	H00200-21011	H00200-21012	H00200-21013	H00200-21014	H00200-21015	H00200-21016	-	H00808-23007	00808-01107
	3.0	H00200-21018	-	H00200-21019	H00200-21020	H00200-21021	H00200-21022	H00200-21023	H00200-21024	H00200-21025	-	H00808-23007	00808-01107
	4.0	H00200-21027	-	H00200-21028	H00200-21029	H00200-21030	H00200-21031	H00200-21032	H00200-21033	H00200-21034	-	H00808-03007	00808-01101
	4.6	H00200-21036	H11200-21036	H00200-21037	H00200-21038	H00200-21039	H00200-21040	H00200-21041	H00200-21042	H00200-21043	-	H00808-03007	00808-01101
5 µm 120 Å	2.1	H00200-31009	H09200-31009	H00200-31010	H00200-31011	H00200-31012	H00200-31013	H00200-31014	H00200-31015	H00200-31016	-	H00808-24007	00808-01107
	3.0	H00200-31018	-	H00200-31019	H00200-31020	H00200-31021	H00200-31022	H00200-31023	H00200-31024	H00200-31025	-	H00808-24007	00808-01107
	4.0	H00200-31027	-	H00200-31028	H00200-31029	H00200-31030	H00200-31031	H00200-31032	H00200-31033	H00200-31034	H00200-31035	H00808-04007	00808-01101
	4.6	H00200-31036	H11200-31036	H00200-31037	H00200-31038	H00200-31039	H00200-31040	H00200-31041	H00200-31042	H00200-31043	H00200-31044	H00808-04007	00808-01101
10 µm 120 Å	4.0	-	-	-	-	-	-	H00200-41032	H00200-41033	H00200-41034	H00200-41035	H00808-05007	00808-01101
	4.6	-	-	-	-	-	-	H00200-41041	H00200-41042	H00200-41043	H00200-41044	H00808-05007	00808-01101

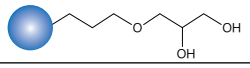
300 Å HPLC column provided Please contact Welch or your local distributor for other dimensions.

Ultisil® Diol

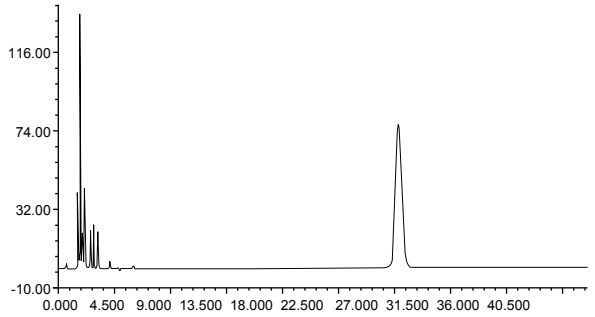
Ultisil® Diol Column is based on ultra-pure porous spherical silica bonded with 1,2-dihydroxypropyl functional group silica Ultisil®Diol is used in normal phase mostly, suitable for separation of peptides, proteins, polar molecules, and organic acids and its polymers.
Like bare silica, Ultisil® Diol has the ability to form hydrogen bonds and is capable of separating structure isomers. Since most of its surface is covered with organic functions, Ultisil® Diol absorbs less water, which leads to more reproducible activity. It is also the sorbent of choice when working in normal phase in the presence of water. It has a different selectivity than bare silica gel, and slight modification in the composition of solvent mixture may be necessary to obtain a similar retention.
Ultisil®Diol column is more stable than traditional normal phase columns, such as NH_2, SiO_2. Compared with NH_2/SiO_2 column, Diol column is not sensitive to water. Ultisil® Diol column can also be used in reversed phase analysis.

- More stable than traditional normal phase columns, such as Silica, Amine
- Can be used in reversed phase analysis
- Similar polarity to Amine
- Good selectivity without excessive retention
- Improved peak shape compared to bare silica

Ultisil® Diol

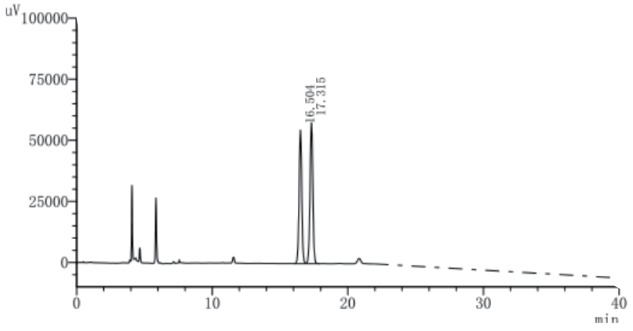
Structural Formula	
pH Range	2.0-8.0
Particle Size	3 μm, 5 μm, 10 μm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	2.5(120 Å)
USP List	L20
Endcapped	No

Tacrolimus



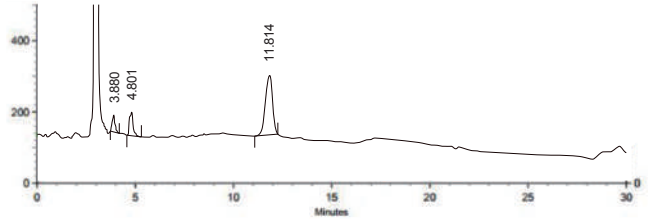
Column:	Ultisil® Diol, 4.6 ×250 mm, 5 μm
Mobile Phase:	N-hexane/ butyl chloride/ acetonitrile=7/2/1
Detector:	225 nm
Temperature:	Ambient
Flow Rate:	1.7 mL/min
Injection Volume:	5 μL

Cloprostenol Sodium



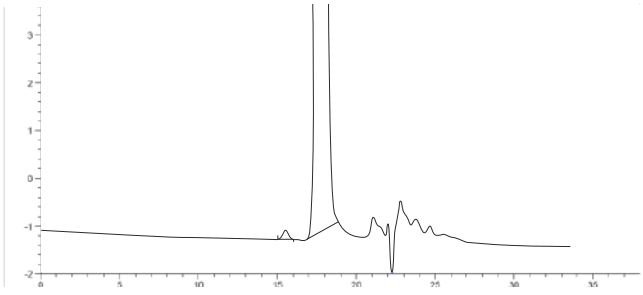
Column:	Ultisil® Diol, 4.6 ×300 mm, 3 μm
Mobile Phase:	N-hexane/isopropanol =99.5/0.5 (volume ratio)
Detector:	220 nm
Temperature:	Ambient
Flow Rate:	1.0 mL/min
Injection Volume:	10 μL

Propofol



Column:	Ultisil® Diol, 4.6 ×250 mm, 5 µm
Mobile Phase:	Mobile phase A: methanol/water/glacial acetic acid/triethylamine=85/15/0.5/0.05 Mobile Phase B: n-hexane/isopropanol/ mobile phase A=20/48/32
Gradient Program:	Time(min) A(%) B(%) 0 5 95 10 22 78 22 22 78 23 90 10 27 5 95
Flow Rate:	1.0 mL/min
Detector:	ELSD: gas flow rate=2.5 L/min, drift tube temperature: 70°C
Temperature:	40°C
Injection Volume:	20 µL

Insulin



Column:	Ultisil® Diol, 7.8 ×300 mm, 5 µm
Mobile Phase:	1 mg/mL L-arginine solution/acetonitrile/ glacial acetic acid=65/20/15
Detector:	276 nm
Temperature:	30°C
Flow Rate:	0.5 mL/min
Injection Volume:	20 µL

Ordering Information

Ultisil® Diol

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300	10mm length	
3 µm 120 Å	2.1	H00206-21009	H09206-21009	H00206-21010	H00206-21011	H00206-21012	H00206-21013	H00206-21014	H00206-21015	H00206-21016	-	H00808-23020	00808-01107
	3.0	H00206-21018	-	H00206-21019	H00206-21020	H00206-21021	H00206-21022	H00206-21023	H00206-21024	H00206-21025	-	H00808-23020	00808-01107
	4.0	H00206-21027	-	H00206-21028	H00206-21029	H00206-21030	H00206-21031	H00206-21032	H00206-21033	H00206-21034	-	H00808-03020	00808-01101
	4.6	H00206-21036	H11206-21036	H00206-21037	H00206-21038	H00206-21039	H00206-21040	H00206-21041	H00206-21042	H00206-21043	-	H00808-03020	00808-01101
5 µm 120 Å	2.1	H00206-31009	H09206-31009	H00206-31010	H00206-31011	H00206-31012	H00206-31013	H00206-31014	H00206-31015	H00206-31016	-	H00808-24020	00808-01107
	3.0	H00206-31018	-	H00206-31019	H00206-31020	H00206-31021	H00206-31022	H00206-31023	H00206-31024	H00206-31025	-	H00808-24020	00808-01107
	4.0	H00206-31027	-	H00206-31028	H00206-31029	H00206-31030	H00206-31031	H00206-31032	H00206-31033	H00206-31034	H00206-31035	H00808-04020	00808-01101
	4.6	H00206-31036	H11206-31036	H00206-31037	H00206-31038	H00206-31039	H00206-31040	H00206-31041	H00206-31042	H00206-31043	H00206-31044	H00808-04020	00808-01101
10 µm 120 Å	4.0	-	-	-	-	-	-	H00206-41032	H00206-41033	H00206-41034	H00206-41035	H00808-05020	00808-01101
	4.6	-	-	-	-	-	-	H00206-41041	H00206-41042	H00206-41043	H00206-41044	H00808-05020	00808-01101

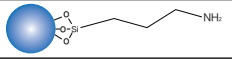
Don't see your needed size or format? Contact Welch or your local distributor for other dimensions.

Ultisil® XB-NH2

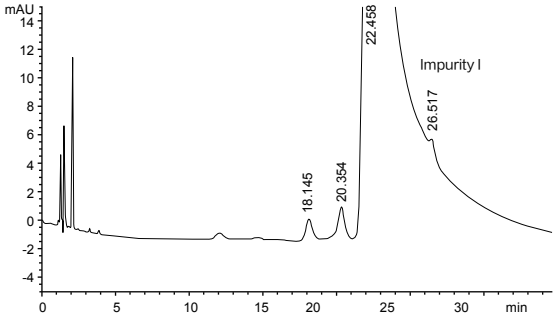
Ultisil® XB-NH2 column is based on propyl-amino silane, mostly used in normal phase, but can also be used in reversed phase.

- **Used in normal phase for weak anion-exchange, and in reversed-phase HPLC for polar compounds**
- **For applications in aggressive normal phase mode with aqueous eluent**
- **Vitamins A and D can be separated in the normal-phase mode**
- **Carbohydrates and sugars can be separated in the reversed-phase mode**

Ultisil® XB-NH2

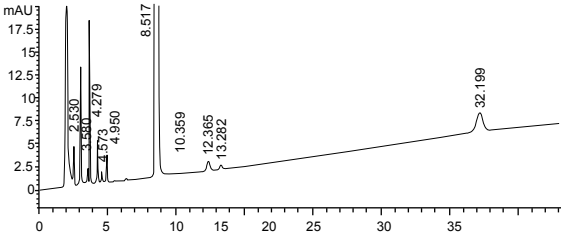
Structural Formula	
pH Range	2.0-8.0
Particle Size	3 μm, 5 μm, 10 μm
Surface Area(m^2/g)	320(120 Å)
Carbon Loading(%)	4(120 Å)
USP List	L8
Endcapped	No

Acarbose



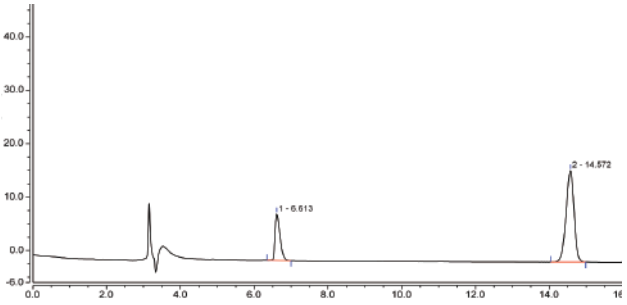
Column:	Ultisil® XB-NH2, 4.6 ×250 mm, 5 μm
Mobile Phase:	Phosphate buffer */ acetonitrile=28/72 * Dissolve 600 mg of s KH_2PO_4 and 279 mg of ADSP in 100 mL water, add water to make 1000 mL
Detector:	210 nm
Temperature:	35°C
Flow Rate:	2.0 mL/min
Injection Volume:	10 μL

Acetyl-L-carnitine



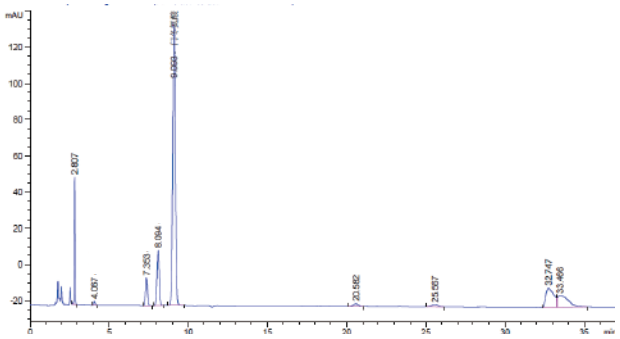
Column:	Ultisil® XB-NH2, 4.6 ×250 mm, 5 μm
Mobile Phase:	Buffer/acetonitrile=30/70
Detector:	205 nm 210 nm
Temperature:	20°C
Flow Rate:	1.0 mL/min
Injection Volume:	10 μL

Separation of N-tert-butylglycine hydrochloride and N-tert-butylglycine acid chloride hydrochloride



Column:	Ultisil® XB-NH2, 4.6 ×250 mm, 5 μm
Mobile Phase:	Methanol/isopropanol=80/20
Detector:	210 nm
Temperature:	30°C
Flow Rate:	1.0 mL/min
Injection Volume:	5 μL

Ornithine Aspartate



Column:	Ultisil® XB-NH_2, 4.6 ×250 mm, 5 µm
Mobile Phase:	KH_2PO_4 buffer solution*/acetonitrile=40/60 * Dissolve 2.72 g of KH_2PO_4 in 500 mL water, add 5 mL of concentrated ammonia solution, addwater to 1000 mL, adjust pH 5.60±0.05 with H_3PO_4
Detector:	205 nm
Temperature:	30°C
Flow Rate:	1.0 mL/min
Injection Volume:	20 µL

Ordering Information

Ultisil® XB-NH_2

Particle size	Column ID (mm)	Column Length (mm)										Guard Cartridge	Cartridge holder
		30	33	50	75	100	125	150	200	250	300	10mm length	
3µm	2.1	H00204-21009	H09204-21009	H00204-21010	H00204-21011	H00204-21012	H00204-21013	H00204-21014	H00204-21015	H00204-21016	-	H00808-23004	00808-01107
	3.0	H00204-21018	-	H00204-21019	H00204-21020	H00204-21021	H00204-21022	H00204-21023	H00204-21024	H00204-21025	-	H00808-23004	00808-01107
	4.0	H00204-21027	-	H00204-21028	H00204-21029	H00204-21030	H00204-21031	H00204-21032	H00204-21033	H00204-21034	-	H00808-03004	00808-01101
	4.6	H00204-21036	H11204-21036	H00204-21037	H00204-21038	H00204-21039	H00204-21040	H00204-21041	H00204-21042	H00204-21043	-	H00808-03004	00808-01101
5µm	2.1	H00204-31009	H09204-31009	H00204-31010	H00204-31011	H00204-31012	H00204-31013	H00204-31014	H00204-31015	H00204-31016	-	H00808-24004	00808-01107
	3.0	H00204-31018	-	H00204-31019	H00204-31020	H00204-31021	H00204-31022	H00204-31023	H00204-31024	H00204-31025	-	H00808-24004	00808-01107
	4.0	H00204-31027	-	H00204-31028	H00204-31029	H00204-31030	H00204-31031	H00204-31032	H00204-31033	H00204-31034	H00204-31035	H00808-04004	00808-01101
	4.6	H00204-31036	H11204-31036	H00204-31037	H00204-31038	H00204-31039	H00204-31040	H00204-31041	H00204-31042	H00204-31043	H00204-31044	H00808-04004	00808-01101
10µm	4.0	-	-	-	-	-	-	H00204-41032	H00204-41033	H00204-41034	H00204-41035	H00808-05004	00808-01101
	4.6	-	-	-	-	-	-	H00204-41041	H00204-41042	H00204-41043	H00204-41044	H00808-05004	00808-01101

Don't see your needed size or format? Contact Welch or your local distributor for other dimensions.