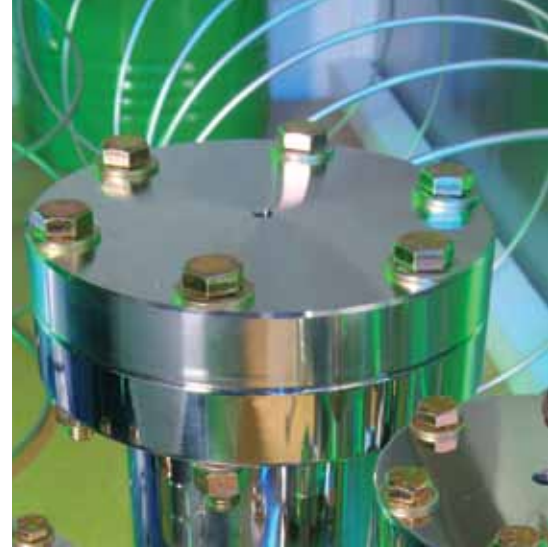


Discovery
Sciences



DAVISIL[®] Chromatographic Silica

Product Selection Guide

- Higher Performance
- Unmatched Technical Support
- Greater Selection
- Predictable Scale-Up
- Exceptional Product Reliability

GRACE
Davison

The DAVISIL[®] Silica Advantage

Higher Performance

Davisil[®] silica's chemical and structural properties are optimized for chromatographic performance. Tight control of these properties from raw material to finished product distinguishes Davisil[®] silica.*

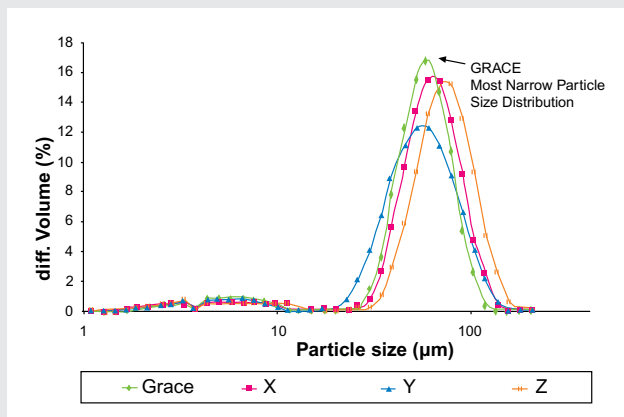
High surface area increases loading capacity.

Company	Surface Area	Bulk Density	Surface Area of 1L Column
Grace	550m ² /g	420g/l	231,000m ² /L
X	515m ² /g	430g/l	221,450m ² /L
Y	460m ² /g	430g/l	197,800m ² /L
Z	450m ² /g	450g/l	189,000m ² /L

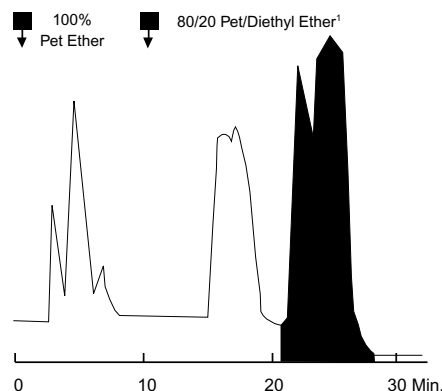
High purity silica reduces unwanted interactions and contamination that cause poor reproducibility.

Company	Mg	Ca
Grace	25ppm	19ppm
X	27ppm	207ppm
Y	119ppm	793ppm
Z	212ppm	1775ppm

Tight particle size distribution to optimize efficiency and pressure drop.



Synthetic Intermediate Purification



Sample: 1g reaction products
 Column: 50 x 500mm
 Column Packing: Davisil[®] LC60Å 20-45µm silica
 Mobile Phase: See chromatogram
 Flow Rate: 175ml/min (535cm/hr)
 Detection: OD 254nm

Davisil[®] silica purification of a schiff base from a crude reaction mixture containing aldehyde, amine and other by-products. The good separation and loading capacity shown at the pilot scale **allowed scale-up to a 300mm diameter column** producing over 90g of purified product per run.

*All comparative data generated on chromatographic silica labeled 60Å, 40-63µm.

Unmatched Technical Support

To assist customers, Grace is prepared to provide advice, assistance or laboratory trials for intended process-scale use. Our field representatives can arrange for such support when required, as well as discuss our ability to customize grades tailored to your requirements.

Contact your office or distributor for pricing.



Greater Selection

A wide range of Davisil® silica grades are available from 1kg to multi-ton quantities to meet your performance and economic requirements. The newly developed 35Å Davisil® silica shows improved surface area leading to up to 50% higher loading capacity combined with 50% less solvent use for pharmaceutical small molecule (<350 MW) purification. The 4500Å Davisil® silica grade is especially designed to purify large molecules commonly purified in bioseparations.

- Available in both normal phase bare silica and various bonding chemistries (C18, Amino, Diol, Cyano) for alternative selectivity.
- Wide selection of distinct pore diameters (30Å – 4500Å) for separation of various MW sizes.
- Available from 1kg to multi-ton quantities.



Davisil® normal phase silica functions through hydrophilic interactions, with **more polar compounds** generally retained longer. This makes it ideally suited for purification of:

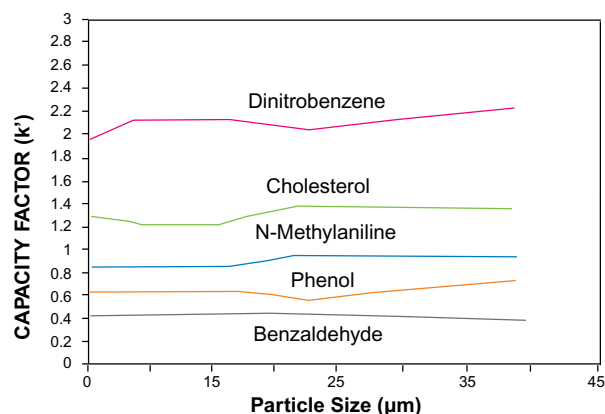
- Chemical Synthesis Intermediates
- Oils and Fats
- Natural Products (vitamins, flavors, fragrances, etc.)



Look for this icon on products from Grace using Davisil® silica, such as TLC plates and SPE/Flash cartridges, to experience the same great performance.

Predictable Scale-Up

Today we manufacture hundreds of tons of Davisil® chromatographic silica per year in multi-ton lots. Our manufacturing is at scale, so your manufacturing can be at scale. In scaling up, you can be confident that Davisil® chromatographic silica will yield consistent performance as particle size is increased.

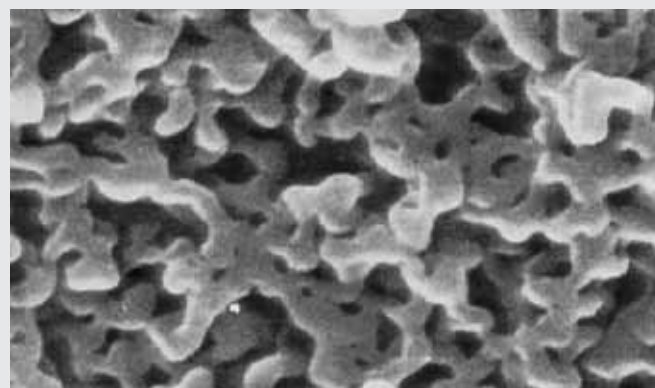


Uniform capacity (k') and selectivity (k') factors across all particle sizes for predictable scale-up

Exceptional Product Reliability

Manufactured for over 25 years, Davisil® chromatographic silica is one of the world's most widely used chromatography sorbents.

Produced at two ISO-9001 certified facilities under strict QC controls from raw material to finished product helps ensure high lot-to-lot reproducibility.



XWP Silica 1:50,000

Surface Area & Pore Volume: +/- 10% lot to lot

DAVISIL® Product Portfolio



Ordering Information

Davisil® Silica Unbonded Grades							
Pore Size (Å)	Particle Size (µm)	Description	Package Weight (kg)	Drum Part No.	Small Pack Part No.		
					1 kg	2.5 kg	5 kg
30	50-100	Grace 921 110 LB/Drum	50	5140213			
30	75-150	923 100-200 Mesh 55 LB/Drum ¹	25	5138973			
30	1000-3000	Davisil® LC30Å 1000-3000µm silica	150	5016637			
35	10-14	Davisil® LC35Å 10-14µm silica	25	Available upon request	1 kg Available upon request		
35	40-63	Davisil® LC35Å 40-63µm silica	25	5156563	5159092		
60	9.5-11	Davisil® Grade 710NW silica	20	5136220	5153530		
60	20-45	Davisil® LC60Å 20-45µm silica	25	5055349	5143588		5094230
60	40-63	Davisil® LC60Å 40-63µm silica	25	5054993	5134312		5098468
60	35-70	Davisil® LC60Å 35-70µm silica	25	5037849	5152540		
60	70-200	Davisil® LC60Å 70-200µm silica	25	5029213	5149540		
60	90-130	Davisil® LC60Å 90-130µm silica	80	5032927			
60	200-500	Davisil® LC60Å 200-500µm silica	25	5022298			
60	1000-3000	Davisil® LC60Å 1000-3000µm silica	30	5058299			
150	16-24	Davisil® LC150Å 16-24µm silica	20	5018962			
150	35-70	Davisil® LC150Å 35-70µm silica	25	5057993	5134299		
150	70-200	Davisil® LC150Å 70-200µm silica	25	5076059	5152610		
150	90-130	Davisil® LC150Å 90-130µm silica	20		5152503		
150	100-300	Davisil® LC150Å 100-300µm silica	70	5054067			
150	315-500	Davisil® LC150Å 315-500µm silica	25	5037727			
250	40-63	Davisil® LC250Å 40-63µm silica	15	5134301			5134292
250	70-200	Davisil® LC250Å 70-200µm silica	15	5153368			5153450
250	90-130	Davisil® LC250Å 90-130µm silica	15	5143160			
250	90-130	Davisil® LC250Å-S 90-130µm silica	15	5149130			
500	35-70	Davisil® XWP500Å 35-70µm silica	20	5030057	5143587		
500	90-130	Davisil® XWP500Å 90-130µm silica	20	5058842	5152541		
500	100-300	Davisil® XWP500Å 100-300µm silica	20	5057050			
1000	16-24	Davisil® XWP1000Å 16-24µm silica	20	5134302	5143585		
1000	35-70	Davisil® XWP1000Å 35-70µm silica	20	5034754	5143586		
1000	90-130	Davisil® XWP1000Å 90-130µm silica	20	5093501	5152504		
1500	16-24	Davisil® XWP1500Å 16-24µm silica	18	5070159			
1500	90-130	Davisil® XWP1500Å 90-130µm silica	18	5045916	5143584		
2500	90-130	Davisil® XWP2500Å 90-130µm silica	20	Available upon request	5143590		
4500	100-300	Davisil® XWP4500Å 100-300µm silica	5	5154492			

¹Grade 923
 ASTM D1319: Petroleum Products by FIA
 ASTM D2549: Aromatics/Non-Aromatics from Oils
 EPA Method 1664: N-Hexane Extraction Method

Bonded Silica					
APS (Å)	Bonded Phase	Particle (µm)	Davisil® Silica Grade	Pkg Size	Part No.
60	C18	10	710NC18E	250g	5135418
		1kg	5135305		
		35-70	633NC18E	250g	5135414
		1kg	5134095		
	Cyano	10	710NCNE	250g	5135419
		1kg	5134223		
		35-70	633NCNE	250g	5135415
		1kg	5134224		
	Diol	10	710N2OH	250g	5135417
		1kg	5135303		
		35-70	633N2OH	250g	5135413
		1kg	5135302		
Amino	10	710NNH2	250g	5135420	
	1kg	5134682			
	35-70	633NNH2	250g	5135416	
	1kg	5134096			

Davisil® Silica TLC Plates			
Description	Layer Thickness	Qty.	Part No.
Hard Layer, Organic Binder, Fluorescent Indicator, 254nm			
Scored, 4, 5x20cm Sections			
20x20cm	250µm	25	8617580
Scored, 8, 2.5x10cm Sections			
10x20cm	250µm	25	8617610

Matching Davisil® Silica TLC plates for easy method development.

Contact your office or distributor for pricing.

Spring® Columns and Multipacker® Packing Station

Perfect Companions for Davisil® Media

Davisil® silica delivers excellent chromatographic results and is a more cost effective solution compared to spherical silica, especially in bulk quantities. To maximize performance, use Davisil® silica packed in Spring® columns to extend column life. For even further cost reduction in high-volume use, pack your own Spring® columns with the Multipacker® packing station.

MODcol® Spring® Columns

- Improve Chromatographic Performance
- Extend Column Lifetimes
- Truly Mobile DAC Column

The Spring® column system has a unique portable design with patented internal dynamic axial compression (DAC) technology that gives DAC performance independently from the external packing device. DAC eliminates voids and increases peak symmetry, column lifetime, reproducibility, and overall efficiency. Spring® columns packed with Davisil® media can provide a highly effective purification solution.



Multipacker® Packing Station

- Easy and Safe Use
- Pack Multiple Columns with One Unit
- Unprecedented Safety Features

Whether using Davisil®, Vydac® or any other media, the combined benefits of the MultiPacker® packing station and Spring® columns can deliver improved performance. Unlike competitive systems, the column can be removed from the MultiPacker® packing station and the DAC mechanism remains contained within the column. This allows more flexibility for column operation in the lab and the ability to pack multiple columns with a single MultiPacker® packing station.

Its hydraulic packing mechanism with pulsation damping makes it safe for use with even the most fragile media. Since the system does not require electrical power, it is safe to use with many volatile solvents and in hazardous environments.

The MultiPacker® packing station incorporates several safety features with redundant back-up to give users maximum confidence and peace of mind to perform in-house packing.



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Additional Grace Solutions for Process Manufacturing

Pharmaceutical Intermediates

- Custom Chiral Intermediates
- Peptide Building Blocks and Fragments
- Low Temperature Chemistry
- Grams to Tons Capacity



Purification Technologies

- Vydac® Protein and Peptide Purification Media
- ModCol® DAC Prep Columns
- Chromatography Experience
- World's Largest Manufacturer of Silica Gel



Formulation Excipients

- Syloid® FP Silica
- Micronized Silicon Dioxide
- Unique Pore Structure and Adsorptive Capacity
- Industry Leading Quality Standards (IPEA GMP)



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