

restek  
innovation!

Silcoport™—the most inert solid support available!

### did you know?

#### Silcoport™ support replaces

- Supelcoport™
- Chromosorb® W HP
- GasChrom® Q

#### Silcoport™ W BW support replaces

- GasChrom® Q

### Silcoport™ Support Materials Outperform Any Deactivated Diatomaceous Earth Supports Available!

- Superior deactivation technology for improved inertness.
- Available in 80/100 and 100/120 mesh.
- Uniform particle distribution for maximum efficiency.

The increased sensitivity of modern detection systems and the desire to reduce detection limits requires a solid support to meet the challenging demands faced by analysts. Silcoport™ supports from Restek are the perfect match for highly inert SilcoSmooth™ tubing. Unlike conventional dimethyldichlorosilane (DMDCS) deactivation, Silcoport™ incorporates our proprietary fused silica deactivation technology on diatomaceous earth solid supports. Silcoport™ supports were developed using a special mixture of deactivants that yields the highest inertness without changing the polarity of the stationary phase. Each batch is carefully tested for particle size distribution, to ensure maximum efficiency. Inertness is confirmed by the analysis of a 50pg pesticide mixture.

### Silcoport™ Packings

Description	Temp. Limit (°C)	Mesh	Min. Qty.†	cat.#
Silcoport™ P*	400	80/100	100g	25641
	400	100/120	100g	25642
Silcoport™ W**	400	80/100	100g	25689
	400	100/120	100g	25673
Silcoport™ W BW***	400	100/120	100g	25674

\*Prepared from Chromosorb® P; Restek acid washed deactivation.

\*\*Prepared from Chromosorb® W; Restek acid washed deactivation.

\*\*\*Prepared from Chromosorb® W; Restek base washed deactivation.

†Bulk quantities are available.

### please note

Silcoport™ is available uncoated or coated with the liquid stationary phase of your choice on 80/100 or 100/120 mesh sizes. Call Restek at 800-356-1688 or 814-353-1300, ext. 3, or contact your Restek representative, for pricing and availability.

### CarboBlack Packings

Description	Temp. Limit (°C)	Mesh	Min. Qty.	cat.#
CarboBlack B	500	60/80	10g	25500
	500	80/120	10g	25501
CarboBlack C	500	60/80	10g	25502
	500	80/100	10g	25503
CarboBlack BHF-100	150	40/60	10g	25504
CarboBlack III (F)	175	80/100	10g	25506
5% Carbowax® 20m on CarboBlack B	225	80/120	10g	25507
6.6% Carbowax® 20m on CarboBlack B	225	80/120	10g	25508
4% Carbowax® 20m / 0.8% KOH on CarboBlack B	220	60/80	10g	25509
0.19% picric acid on CarboBlack C	120	80/100	10g	25510
4% Carbowax® 20m on CarboBlack B-DA	200	80/120	10g	25511

**Res-Sil™ C Packings**

- Unique separation of saturated and unsaturated hydrocarbons.
- Innovative bonding chemistry for batch-to-batch reproducibility, excellent thermal stability, and long life.
- Wide range of bonded phases available.
- Equivalent to Waters Durapak® packings.

Bonded silica packings with *n*-octane or cyanopropyl (OPN) functional groups yield faster separations of C1 to C4 hydrocarbons, higher thermal stability, shorter conditioning times, and longer lifetimes than conventional packings. However, bonded silica packings have had inconsistent reproducibility and limited availability. Restek's research team has solved these age-old problems by developing Res-Sil™ C packings for consistent performance.

**Unique Selectivity for Process GC and High-Speed Analysis of Petrochemicals**

Res-Sil™ C bonded packings are ideal for fast resolution of difficult-to-separate saturated and unsaturated C4 hydrocarbons (e.g., see pages 114 and 115). This unique selectivity, when combined with other columns in series, provides petroleum and petrochemical method developers with a powerful tool for fast determination of C1 to C5 hydrocarbons.<sup>1</sup>

**Innovative Research and Stringent QA Provide Batch-to-Batch Consistency**

Restek's synthesis procedure eliminates batch-to-batch variations. The amount of bonded liquid phase is precisely controlled in every batch, for reproducible retention times and separations. Each production batch of Res-Sil™ C packing is tested with a complex hydrocarbon mixture to meet demanding retention time and retention index specifications. Column bleed is also evaluated to ensure that there are no retention shifts or high baselines.

**OPN on Res-Sil™ C Packing—the Latest in a Line of Bonded GC Phases**

Restek offers a wide range of bonded packings for packed column GC, including Rtx®-1 and Stabilwax® phases, Carbowax® and *n*-octane phases on Res-Sil™ C packing, and our OPN on Res-Sil™ C packing. Each of these packings has low bleed, conditioning times of less than 30 minutes, long lifetime, and consistent batch-to-batch reproducibility. Every batch of Restek's bonded phases is tested for bleed, efficiency, and retention index and retention time reproducibility.

**Res-Sil™ Packing Materials**

Description	Temp. Limit (°C)	Mesh	Min. Qty.	cat.#
Res-Sil™ C	300	60/80	10g	25400
	300	80/100	10g	25028
Res-Sil™ B	300	60/80	10g	25401
	300	80/100	10g	25080
1% TCEP on Res-Sil™ B	175	80/100	10g	25081
OPN on Res-Sil™ C	150	80/100	10g	25042
<i>n</i> -Octane on Res-Sil™ C	150	80/100	10g	25030
2% Carbowax® 1540 on Res-Sil™ C	150	80/100	10g	25044

<sup>1</sup>N.C. Saha, S.K. Jain, and R.K. Dua. *J. Chromat. Sci* 1978, 323-328.



**Scott Harrison**  
Director of Marketing  
1+ years of service!

**also available**

Custom packing materials are also available. See [page 126](#).

**did you know?**

Res-Sil™ replaces

- Porasil B
- Porasil C



**Tom Barone**

GC Columns

Manufacturing Technician

14+ years of service!

### Chromosorb® Diatomaceous Earth Supports

Restek offers the full line of Chromosorb® solid supports that are specially sieved to remove fines and ensure tight particle distribution. Choosing the appropriate support will depend on your application. Need assistance? Call Technical Service at 800-356-1688 or 814-353-1300, ext. 4, or contact your Restek representative for more information.

### Chromosorb® P (used to prepare Silcoport™ P)

Chromosorb® P support is manufactured from hard firebrick, making it a rugged material. This support is available acid washed (AW), nonacid washed (NAW), and traditional dimethyldichlorosilane (DMDCS) treated. Chromosorb® P support can hold up to 30 weight% of liquid stationary phase, making it the highest loading support available.

### Chromosorb® W (used to prepare Silcoport™ W and Silcoport™ BW)

Chromosorb® W support is a flux-calcinated diatomite. This solid support is very fragile but offers the highest inertness of all diatomaceous earth supports. It can be prepared with up to 25 weight% of liquid stationary phase. Chromosorb® W support is available in AW, NAW, and DMDCS, or treated with Restek's proprietary (Silcoport™) deactivation. Chromosorb® W-HP is an acid washed, silanized version of Chromosorb® W.

### Chromosorb® G

Chromosorb® G support is the hardest support available and has the lowest surface area of all the diatomaceous earth supports. Chromosorb® G support is available as AW, NAW, and DMDCS-treated. It can hold up to 10 weight% of liquid stationary phase.

### Chromosorb® T

Chromosorb® T support is made from Teflon® material and is an extremely inert solid support.

Call Restek at 800-356-1688 or 814-353-1300, ext. 3, or contact your Restek representative for quotes on any Chromosorb® material. Some of the popular Chromosorb®-based stock columns and packings available are:

### Chromosorb® Packings

Description	Mesh	Min.		Description	Mesh	Min.	
		Qty.*	cat.#			Qty.*	cat.#
Chromosorb® PNAW	45/60	100g	25629	Chromosorb® GAW/DMDCS	45/60	100g	25651
	60/80	100g	25630		60/80	100g	25652
	80/100	100g	25631		80/100	100g	25653
	100/120	100g	25632		100/120	100g	25654
Chromosorb® PAW	45/60	100g	25633	Chromosorb® G-HP	100/120	100g	25655
	60/80	100g	25634	Chromosorb® WNAW	45/60	100g	25656
	80/100	100g	25635	60/80	100g	25657	
	100/120	100g	25636	80/100	100g	25658	
Chromosorb® PAW/DMDCS	45/60	100g	25637	100/120	100g	25659	Chromosorb® WAW
	60/80	100g	25638	45/60	100g	25660	
	80/100	100g	25639	60/80	100g	25661	
	100/120	100g	25640	80/100	100g	25662	
Chromosorb® GNAW	45/60	100g	25643	100/120	100g	25663	Chromosorb® WAW/DMDCS
	60/80	100g	25644	45/60	100g	25664	
	80/100	100g	25645	60/80	100g	25665	
	100/120	100g	25646	80/100	100g	25666	
Chromosorb® GAW	45/60	100g	25647	100/120	100g	25667	Chromosorb® W-HP
	60/80	100g	25648	60/80	100g	25668	
	80/100	100g	25649	80/100	100g	25669	
	100/120	100g	25650	100/120	100g	25670	
				120/140	100g	25671	Chromosorb® T
				40/60	100g	25676	

\*Bulk quantities are available.

NAW—nonacid washed

AW—acid washed

DMDCS—dimethyldichlorosilane

BW—base washed

DA—deactivated for acidic compounds

## Chromosorb® Century Packings

Description	Temp.		Mesh 60/80		Mesh 80/100		Mesh 100/120	
	Limits (°C)	g/btl.	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
Chromosorb® 101	275/325	50g	25608		25609		25610	
Chromosorb® 102	250/300	50g	25611		25612		25613	
Chromosorb® 103	275/300	50g	25614		25615		25616	
Chromosorb® 104				(equivalent to HayeSep® C)				
Chromosorb® 105	250/275	50g	25617		25618		25619	
Chromosorb® 106	250/275	50g	25620		25621		25622	
Chromosorb® 107	250/275	50g	25623		25624		25625	
Chromosorb® 108	250/275	50g	25626		25627		25628	

## Porapak Series Packings

Description	Temp.		Mesh 50/80		Mesh 80/100		Mesh 100/120	
	Limit (°C)	g/btl.	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
Porapak P	250	20g	25576		25577		25578	
Porapak PS	250	20g	25579		25580		25581	
Porapak Q	250	26g	25582		25583		25584	
Porapak QS	250	26g	25585		25586		25587	
Porapak R	250	24g	25588		25589		25590	
Porapak S	250	26g	25591		25592		25593	
Porapak N	190	29g	25594		25595		25596	
Porapak T	190	31g	25597		25598		25599	

## HayeSep® Series Packings

Description	Temp.		Mesh 60/80		Mesh 80/100		Mesh 100/120	
	Limit (°C)	g/btl.	cat.#	cat.#	cat.#	cat.#	cat.#	cat.#
HayeSep® A	165	24g	22560		25032		25033	
HayeSep® B	190	24g	25561		25034		25035	
HayeSep® C	250	24g	25562		25036		25037	
HayeSep® D	290	24g	25563		25038		25039	
HayeSep® DIP	290	24g	25564		25565		25566	
HayeSep® DB	290	24g	25567		25568		25569	
HayeSep® DOX				(Use HayeSep® DB)				
HayeSep® N	165	24g	25570		25045		25046	
HayeSep® P	250	24g	25571		25047		25048	
HayeSep® Q	275	24g	25572		25049		25050	
HayeSep® R	250	24g	25573		25051		25052	
HayeSep® S	250	24g	25574		25053		25054	
HayeSep® T	165	24g	25575		25055		25056	

## Tenax Packings

Description	Temp.		Mesh 60/80		Mesh 80/100	
	Limit (°C)	Min. Qty.	cat.#	cat.#	cat.#	cat.#
Tenax-TA	350	10g	25550		25551	
Tenax-GR	350	10g	25552		25553	

also available

Custom packing materials are also available. See page 126.

## it's a fact

Restek On-The-Road training seminars are full-day courses presented in an engaging multimedia format. They are equally valuable to beginning chromatographers, those who have moderate experience and want a better understanding of the subject matter, and those interested in the "best practices" and latest technologies. **No sales pitch is presented**, just the facts on how to make your chromatography results better. The bulk of each course is lecture, but numerous demonstrations and problem-solving exercises facilitate and reinforce the understanding of important principles. See page 11 for more information.