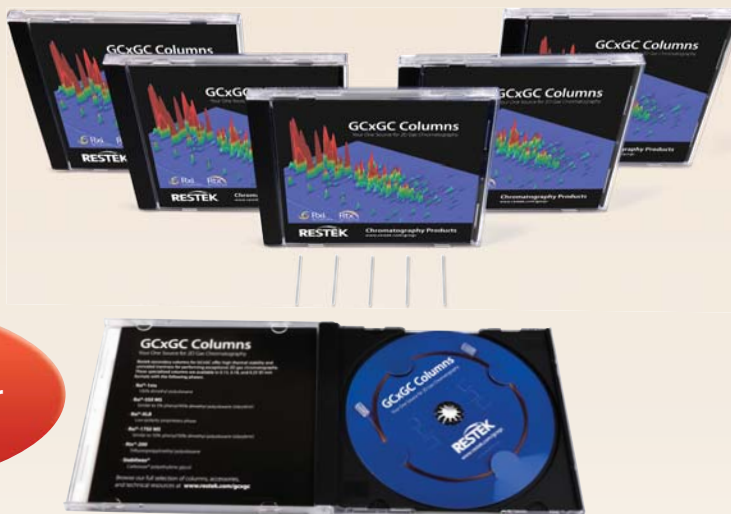


## Simplify Column Selection With New GCxGC Selectivity Kits

Our comprehensive kits contain six 2 m secondary columns with different phase chemistries to ensure orthogonal separations. Available in 0.15, 0.18, and 0.25 mm ID formats, they are a must for method developers and heavy GCxGC users alike!



See page 8 for details  
and a limited-time offer  
on GCxGC columns.



### Come visit Restek

at these upcoming events:

#### SEPTEMBER

30-Oct. 3 | AOAC • Las Vegas, NV, USA

#### OCTOBER

1-5 | COLACRO XIV • Florianópolis,  
Santa Catarina, Brazil

7-10 | ChromSAAMS 2012  
Dikhololo Game Reserve, South Africa

16-17 | Gulf Coast Conference • Galveston, TX, USA

#### NOVEMBER

12-15 | EAS • Somerset, NJ, USA

Go to [www.restek.com/events](http://www.restek.com/events) for the full calendar!

### A Fresh, New Style!



As we transition through our supply of boxes, you will see more of this new and improved look. Rest assured, the products inside are the same high-quality, genuine Restek products you currently rely on. We hope you like the new face of Restek and welcome your comments at [www.restek.com/NewBox](http://www.restek.com/NewBox)



# Genuine Restek Replacement Parts for Waters ACQUITY UPLC® Systems

Keep your instrument running its best with these rock-solid, economical alternatives to high-cost vendor parts.



Description	Model #	Similar to Waters part #	qty.	cat.#
Needle Assembly, 0.010 mm ID	ACQUITY	700002644	ea.	25942
Sample Loop, 10 µL	ACQUITY, nanoACQUITY	430001326	ea.	25943
Wash Station O-Ring	ACQUITY, nanoACQUITY	700002572	ea.	25944
Metering Syringe, 100 µL	ACQUITY, nanoACQUITY	700002570	ea.	25945
Tube Assembly, Inject Outlet	ACQUITY	430001084	ea.	25946
Tube Assembly, System Outlet	ACQUITY	430001486	ea.	25947
Tube Assembly, SSV to Inline Filter	nanoACQUITY	430001470	ea.	25948
Tube Assembly, Transducer to Check Valve, BSM	ACQUITY, nanoACQUITY	430001121	ea.	25949
Tube Assembly, Transducer to Check Valve, QSM	ACQUITY	430002357	ea.	25950
Tube Assembly, SSV to I2V	ACQUITY	430001443	ea.	25941
Head Plunger Seal	ACQUITY, nanoACQUITY	700002599	2-pk.	26428
Wash Seal	ACQUITY, nanoACQUITY	700002598	2-pk.	26429
Pump O-Ring	ACQUITY, nanoACQUITY	WAT076152	ea.	25951
Sapphire Plungers	ACQUITY, nanoACQUITY	700002600	2-pk.	25958
In-Line Filter Assembly, Stainless Steel Frit	ACQUITY, nanoACQUITY	289003547	ea.	25952
Filter Frit Cartridge, Stainless Steel	ACQUITY	700002913	ea.	25953
Solvent Bottle Filters	ACQUITY	700003616	7-pk.	25954
Primary Check Valve	ACQUITY, nanoACQUITY	700002596	2-pk.	25955
Accumulator Check Valve (Double Ball & Seat)	ACQUITY, nanoACQUITY	700002968	2-pk.	25956
I2 Check Valve Cartridge	ACQUITY	700005165	ea.	25957



## Protect your column and your UHPLC performance with UltraShield and UltraLine UHPLC Filters

A cost-effective way to extend the lifetime of any UHPLC column without sacrificing your UHPLC performance on any LC system.



### UltraShield UHPLC PreColumn Filter

Description	qty.	cat.#
UltraShield UHPLC PreColumn Filter	ea.	24995
UltraShield UHPLC PreColumn Filter	5-pk.	24996
UltraShield UHPLC PreColumn Filter	10-pk.	24997

### UltraLine UHPLC In-Line Filter

Description	qty.	cat.#
UltraLine UHPLC In-Line Filter (In-Line Assembly with Filter)	ea.	24993
UltraLine Replacement Filters	5-pk.	24994



# All the Right Tools— All in One Toolbox

- USLC® method development toolbox contains all 4 Ultra Selective Liquid Chromatography™ (USLC®) stationary phases in 1 convenient package.
- Available for UHPLC (1.9 µm) and HPLC (3 or 5 µm) in 50, 100, or 150 mm lengths.
- Included selection guide makes it even easier to pick the right column the first time.



## The USLC® Column Set...

- Represents the widest range of reversed phase selectivity available with just 4 stationary phases: Aqueous C18, IBD, Biphenyl, and PFP Propyl.
- Simplifies column choice for fast, effective method development.
- Offers greater control to more easily resolve closely eluting peaks.
- Maximizes column screening efficiency by ensuring orthogonality between analytical runs.
- Fits universally on any HPLC or UHPLC instrumentation.

*Choose Columns Fast. Develop Methods Faster.*

For a limited time, when you order a USLC® method development toolbox, we'll include a **free LC Accessory Kit** for your lab.

**FREE**  
LC Accessory Kit  
With Purchase  
of Any USLC®  
Toolbox.

Promo part #	Description	Size	Promo Details
25800-409i	Pinnacle DB USLC Method Development Toolbox	1.9µm, 2.1mm x 50mm	with Free UltraShield UHPLC PreColumn Filter 5-pk. (cat.# 24996) and a ValvTool Wrench (cat.# 25321)
25801-409i	Ultra USLC Method Development Toolbox	3µm, 2.1mm x 50mm	with Free LC 10mm Guard Holder (cat.# 25084), 4mm 0.5µm Replacement Cap Frit 5-pk. (cat.# 25023), and a ValvTool Wrench (cat.# 25321)
25802-409i	Ultra USLC Method Development Toolbox	3µm, 2.1mm x 100mm	with Free LC 10mm Guard Holder (cat.# 25084), 4mm 0.5µm Replacement Cap Frit 5-pk. (cat.# 25023), and a ValvTool Wrench (cat.# 25321)
25803-409i	Ultra USLC Method Development Toolbox	3µm, 3.0mm x 100mm	with Free LC 10mm Guard Holder (cat.# 25084), 4mm 0.5µm Replacement Cap Frit 5-pk. (cat.# 25023), and a ValvTool Wrench (cat.# 25321)
25804-409i	Ultra USLC Method Development Toolbox	5µm, 2.1mm x 50mm	with Free LC 10mm Guard Holder (cat.# 25084), 4mm 0.5µm Replacement Cap Frit 5-pk. (cat.# 25023), and a ValvTool Wrench (cat.# 25321)
25805-409i	Ultra USLC Method Development Toolbox	5µm, 2.1mm x 100mm	with Free LC 10mm Guard Holder (cat.# 25084), 4mm 0.5µm Replacement Cap Frit 5-pk. (cat.# 25023), and a ValvTool Wrench (cat.# 25321)
25806-409i	Ultra USLC Method Development Toolbox	5µm, 4.6mm x 150mm	with Free LC 10mm Guard Holder (cat.# 25084), 4mm 0.5µm Replacement Cap Frit 5-pk. (cat.# 25023), and a ValvTool Wrench (cat.# 25321)

Offer available for sales outside the US only. Simply contact your Restek representative and place your order referencing the catalog number from the table above. Offer valid through December 31, 2012, or while supplies last. Discount cannot be combined with any other offers. Distributor participation may vary.



# True Blue Performance

Exceptionally inert, Sky® inlet liners with a new **state-of-the-art deactivation** improve trace-level analysis.

**Sky®**  
Inlet Liners

- **Increase accuracy and precision** by preventing loss of sensitive analytes—even when using wool.
- **Achieve lower detection limits** for a wide range of active compounds.
- **Ensure liner-to-liner reproducibility** through consistent manufacturing and extensive testing.



Patent pending

**Sky® inlet liners are available in  
1-, 5-, and 25-packs for most common GCs:**

Agilent • Bruker/Varian • PerkinElmer • Shimadzu • Thermo Scientific

**Choose from a wide variety of configurations and styles:**



2 mm Splitless



4 mm Cyclo Double Taper



Low Pressure Drop Precision Liner w/Wool



Auto SYS XL PSS Split/Splitless w/Wool



3.5 mm Precision Liner w/Wool



3.5 mm Single Taper



5 mm Straight



5 mm Splitless



2 mm for Multimode Inlet (MMI)



4 mm Single Taper

# Gas Generators From Restek

## Affordable

Generators are cost-effective and quickly pay for themselves.

## Reliable

Dependably produce a continuous supply of high-purity carrier and fuel gas.

## Safe

Eliminate hazardous cylinders and free up valuable lab space.

Visit [www.restek.com/gas](http://www.restek.com/gas) for more information.



## These Vials Offer The Security of a Crimp-Top Vial With the Convenience of a Screw-Thread Vial



21140

### Agilent Compatible!

Ideal for Agilent 7673, 7683, and 7693 & other autosamplers that process 12 x 32 mm crimp-top vials.

- Fit all 2.0 mL, 12 x 32 mm, crimp-top vial based autosamplers.
- Shorter screw cap allows the robotic autosampler to function properly.
- Wider opening prevents syringe problems.
- Dimensions are effectively identical to the crimp-top vial.

### 2.0 mL, 9 mm Short-Cap, Screw-Thread Vials (vial only)

Description	Color	100-pk.	1,000-pk.
Short-Cap Vial w/White Graduated Marking Spot	Clear	21140	21141
Short-Cap Vial w/White Graduated Marking Spot	Amber	21142	21143
Short-Cap Vial without Graduated Marking Spot	Clear	21154	21155

### 2.0 mL, 9 mm Short-Cap, Screw-Vial Closures (Polypropylene, preassembled)

Cap Color	Liner Material	100-pk.	500-pk.	1,000-pk.
Blue	PTFE/Red Rubber	24473	—	24474
Mixed	PTFE/Red Rubber	—	24668	—
Blue	PTFE/Silicone	24485	—	24486
Green	PTFE/Silicone	24487	—	24488
Yellow	PTFE/Silicone	24493	—	24494
Mixed	PTFE/Silicone	—	24669	—
Blue	PTFE/Silicone/PTFE	24497	—	24498
Black	PTFE/Silicone/PTFE	24495	—	24496
Natural	PTFE/Silicone/PTFE	24501	—	24502
Red	PTFE/Silicone/PTFE	24503	—	24504
Yellow	PTFE/Silicone/PTFE	24505	—	24506
Mixed	PTFE/Silicone/PTFE	—	24670	—



24668



22856

## Don't Forget the Rack!

- Racks feature alphanumeric indexing for easier vial identification.
- Racks can be stacked for efficient storage.
- Fits most 2.0 mL, 12 x 32 mm vials (vials sold separately).

### 2.0 mL Sample Vial Racks

Description	Capacity	qty.	cat.#	qty.	cat.#
Polypropylene Storage Rack for 12 x 32 mm Vials	50 vials, 5 x 10	ea.	22856	5-pk.	22857



# Upgrade the FID Jets in your Agilent GCs

## Standard Version

- Engineered with a fluted tip to guide the capillary column into the jet.
- Threads specially coated for easy installation and removal.
- Special processing ensures the highest degree of cleanliness.
- Meets or exceeds original manufacturer's performance.

## High-Performance Version—Siltek® Treated

- Similar to the standard version, but Siltek® treated.
- Extremely inert, for use with active compounds.

## Capillary Adaptable FID Replacement Jet for Agilent 5890/6890/6850 GCs

Description	Similar to Agilent part #	qty.	cat.#	qty.	cat.#
Standard, 0.011-Inch ID Tip	19244-80560	ea.	20670	3-pk.	20671
High-Performance Siltek Treated, 0.011-Inch ID Tip	19244-80560	ea.	20672	3-pk.	20673

## Capillary Dedicated FID Replacement Jet for Agilent 6890/6850/7890 GCs

Description	Similar to Agilent part #	qty.	cat.#	qty.	cat.#
Standard, 0.011-Inch ID Tip	G1531-80560	ea.	21621	3-pk.	21682
High-Performance Siltek Treated, 0.011-Inch ID Tip	G1531-80560	ea.	21620	3-pk.	21683
High-Temperature, 0.018-Inch ID Tip	G1531-80620	ea.	23078	3-pk.	23079



techtip

### Which FID Jet Should I Use?

There are two FID jet configurations for Agilent GCs. The longer "adaptable" jet fits both 5890 and 6890 GCs, and can be used with capillary or packed columns. The shorter "dedicated" jet is for the FID in the 6890/7890 GC that is designed only for use with capillary columns.



## Easily Remove and Install FID Jets

FID Jet Removal Tool for Agilent 5890/6890/6850/7890 FIDs



Slip tool over FID jet...



...loosen jet...



...and remove.

Description	qty.	cat.#
FID Jet Removal Tool for Agilent 5890/6890/6850/7890 FIDs	ea.	22328

## restek innovation!

- Securely grips jet in socket.
- Unique, ergonomic handle—easy to hold.



# Accurate Results Start With Reliable Equipment



Restek  
Electronic  
Leak Detector

Cat.# 22839



[www.restek.com/leakdetector](http://www.restek.com/leakdetector)



Restek  
ProFLOW 6000  
Electronic  
Flowmeter

Cat.# 22656



[www.restek.com/flowmeter](http://www.restek.com/flowmeter)

## Switch to Silcosteel® Regulators for Exceptional Inertness and Corrosion Resistance

Single and dual stage regulators are available with Silcosteel® surface treatment. This proprietary passivation process, developed by SilcoTek™, provides excellent inertness for sulfur and mercury calibration standards and improved corrosion resistance over bare 316L stainless steel or other more expensive alloys.

Silcosteel® treated sampling and transfer systems allow oil and gas exploration companies, chemical and petrochemical plants, and refineries to obtain accurate sulfur and mercury data every time with no delay, sample errors, or false readings, down to part-per-billion (ppb) levels. Analysts charged with monitoring sulfur and mercury levels in process streams can save thousands of dollars in improved yields, better test cycle times, and improved system reliability.

Outlet pressure: 0 to 100 psig

Inlet gauge: 0 to 4000 psig

Outlet gauge: 30" – 0 to 200 psig

Outlet assembly: diaphragm valve, 1/4" tube fitting

### Applications:

- CEM Continuous Emission Monitoring
- Environmental Stack and Gas Emission Standards
- Low level sulfur and mercury analysis
- Reactive or corrosive gases

- Off-shore platform systems
- Corrosive and salt water exposure



Description	qty.	cat.#
<b>Single-Stage Regulator</b>		
CGA 330 (H <sub>2</sub> S and other reduced sulfurs)	ea.	21361-5
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21361-6
CGA 660 (NO, NO <sub>2</sub> , SO <sub>2</sub> )	ea.	21361-11
<b>Dual-Stage Regulator</b>		
CGA 330 (H <sub>2</sub> S and other reduced sulfurs)	ea.	21360-2
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21360-7
CGA 660 (NO, NO <sub>2</sub> , SO <sub>2</sub> )	ea.	21360-12

For other CGA fittings, please contact your local Restek representative.

Our complete line of regulators can be found at [www.restek.com/regulators](http://www.restek.com/regulators)

## Get a Leak-Tight Seal Between Fused Silica Capillary Columns

- Connect a guard column to an analytical column.
- Repair a broken column.
- Connect a column outlet to a transfer line.

### Use a Universal Press-Tight® Connector

- Deactivated Press-Tight® connectors maintain complete inertness for the GC flow path.
- Siltek® deactivated connectors are ideal for organochlorine pesticides analysis.
- Fit column ODs from 0.33–0.74 mm (Restek 0.1–0.53 mm ID).

Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	
Universal Press-Tight Connectors, Siltek Deactivated	20480	20449	

Visit [www.restek.com/press-tight](http://www.restek.com/press-tight) for more!



## Never Use a Washer Again!

Our patented dual Vespel® ring inlet seal greatly improves injection port performance—it stays sealed, even after repeated temperature cycles, without retightening the reducing nut! This seal features two soft Vespel® rings that eliminate the need for a washer and need very little torque to make a leak-tight seal.

0.8 mm ID Dual Vespel Ring Inlet Seal	2-pk.	10-pk.	50-pk.
Gold-Plated	21240	21241	23418
Siltek-Treated	21242	21243	23419
Stainless Steel	21238	21239	23420
1.2 mm ID Dual Vespel Ring Inlet Seal	2-pk.	10-pk.	
Gold-Plated	21246	21247	
Siltek-Treated	21248	21249	
Stainless Steel	21244	21245	

Learn more at [www.restek.com/dvr](http://www.restek.com/dvr)

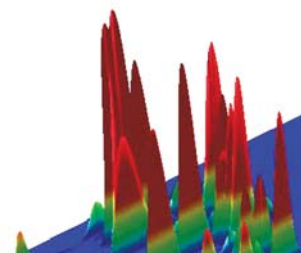


Save  
Now!

www.restek.com/  
gcxgc-promo

## Buy One Primary Column for GCxGC, Get One Secondary Column Free!

- Wide range of stationary phases offers orthogonal separations.
- High thermal stability maximizes system ruggedness and sensitivity.
- Unrivalled column inertness for accurate analysis of active compounds.
- Secondary columns come in convenient 2 m lengths for economical method development.
- 0.15, 0.18, and 0.25 mm ID formats accommodate varying sample capacities, speeds, and detectors.



With this special offer, you can get a **FREE** secondary column for every primary column you order!

◀ Buy One  
Get One FREE ▶



### Primary Columns for GCxGC

Description	Length	ID	df	temp. limits	cat.#
Rxi-1ms	30 m	0.25 mm	0.25 µm	-60 to 330/350 °C	13323-2DGC1
Rxi-5Sil MS	30 m	0.25 mm	0.25 µm	-60 to 320/350 °C	13623-2DGC1
Rxi-XLB	30 m	0.25 mm	0.25 µm	30 to 340/360 °C	13723-2DGC1
Rxi-17Sil MS	30 m	0.25 mm	0.25 µm	40 to 340/360 °C	14123-2DGC1
Rtx-200	30 m	0.25 mm	0.25 µm	-20 to 320/340 °C	15023-2DGC1
Stabilwax	30 m	0.25 mm	0.25 µm	40 to 250/260 °C	10623-2DGC1

### Secondary Columns for GCxGC

Description	Length	ID	df	temp. limits	cat.#
Rxi-1ms	2 m	0.15 mm	0.15 µm	-60 to 330/350 °C	15114-2DGC2
	2 m	0.18 mm	0.18 µm	-60 to 330/350 °C	15120-2DGC2
	2 m	0.25 mm	0.25 µm	-60 to 330/350 °C	15127-2DGC2
Rxi-5Sil MS	2 m	0.15 mm	0.15 µm	-60 to 330/350 °C	15113-2DGC2
	2 m	0.18 mm	0.18 µm	-60 to 330/350 °C	15119-2DGC2
	2 m	0.25 mm	0.25 µm	-60 to 330/350 °C	15126-2DGC2
Rxi-XLB	2 m	0.15 mm	0.15 µm	30 to 340/360 °C	15115-2DGC2
	2 m	0.18 mm	0.18 µm	30 to 340/360 °C	15121-2DGC2
	2 m	0.25 mm	0.25 µm	30 to 340/360 °C	15128-2DGC2
Rxi-17Sil MS	2 m	0.15 mm	0.15 µm	40 to 340/360 °C	15110-2DGC2
	2 m	0.18 mm	0.18 µm	40 to 340/360 °C	15116-2DGC2
	2 m	0.25 mm	0.25 µm	40 to 340/360 °C	15123-2DGC2
Rtx-200	2 m	0.15 mm	0.15 µm	-20 to 320/340 °C	15111-2DGC2
	2 m	0.18 mm	0.18 µm	-20 to 320/340 °C	15117-2DGC2
	2 m	0.25 mm	0.25 µm	-20 to 320/340 °C	15124-2DGC2
Stabilwax	2 m	0.15 mm	0.15 µm	40 to 250/260 °C	15112-2DGC2
	2 m	0.18 mm	0.18 µm	40 to 250/260 °C	15118-2DGC2
	2 m	0.25 mm	0.25 µm	40 to 250/260 °C	15125-2DGC2

Offer valid through December 31, 2012, or while supplies last. Simply use the catalog numbers from the following table to order both primary (-2DGC1 extension) and secondary columns (-2DGC2 extension). Discount cannot be combined with any other offers. Distributor participation may vary.



## GCxGC Selectivity Kits

Available  
Now!

- Each kit includes one Rxi®-1ms, Rxi®-5Sil MS, Rxi®-17Sil MS, Rtx®-200, Rxi®-XLB, and Stabilwax® column.
- Simplifies column selection for method developers and heavy GCxGC users alike.
- Press-Tight® connectors also included.

Description	qty.	cat.#
GCxGC (0.15 mm) Selectivity Kit	kit	15129
GCxGC (0.18 mm) Selectivity Kit	kit	15130
GCxGC (0.25 mm) Selectivity Kit	kit	15131

Learn more at [www.restek.com/gcxgc](http://www.restek.com/gcxgc)



## Go Green!

Help Save the Environment and Save Time  
in the Lab With Q-sep™ QuEChERS Products



### REDUCE:

Easy-pour packets create far less waste than tubes of extraction salts.

### REUSE:

Highly inert FEP centrifuge tubes are reusable indefinitely under normal use.

### RECYCLE:

Packet boxes consist of at least 33% recycled cardboard and are 100% recyclable.

Available for European EN 15662, AOAC 2007.01, and Original Unbuffered Methods.

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# Lower Detection Limits of 1,4-Dioxane in Drinking Water

## Using Large Volume Injection in an Unmodified Splitless GC Inlet

By Chris Rattray, Jack Cochran, and Chris English

### Abstract

Concurrent solvent recondensation-large volume splitless injection (CSR-LVSI) for gas chromatography typically requires a special injection port such as a programmable temperature vaporizer (PTV). The technique described here for the analysis of 1,4-dioxane in drinking water uses an unmodified split/splitless inlet with CSR-LVSI to lower reporting limits without concentrating the extract. This CSR-LVSI technique improves detectability with no specialized equipment or changes to standard laboratory instrumentation.

### Conclusion

Concurrent solvent recondensation-large volume splitless injection with an unmodified Agilent split/splitless GC inlet has been shown to be a technically viable approach with potential advantages for EPA Method 522 dioxane analysis. The solvent recondensation focuses the solutes into a tight band on the column, which improves chromatography. At the same time, this technique increases the amount of analyte transferred to the column. Using CSR-LVSI with a standard inlet, as shown here, provides a cost-effective way to meet ever decreasing detection and quantitation limits.

Visit  
[www.restek.com/dioxane](http://www.restek.com/dioxane)  
to read the complete  
application note!



- New solution from Restek offers near 100% recovery of 1,4-dioxane in drinking water.
- Reliably detects 1,4-dioxane well below EPA suggested reporting levels.
- Requires no specialized equipment or changes to standard laboratory instrumentation.

**Rxi®-624Sil MS Columns** (fused silica) (midpolarity Crossbond® silarylene phase; similar to 6% cyanopropylphenyl/94% dimethyl polysiloxane)

Description	temp. limits	qty.	cat.#
30 m, 0.25 mm ID, 1.40 µm	-20 to 300/320 °C	ea.	13868

**Rxi® Guard/Retention Gap Columns** (fused silica)

Description	ea.	6-pk.
5 m, 0.25 mm ID, 0.37 ± 0.04 mm OD	10029	10029-600
10 m, 0.25 mm ID, 0.37 ± 0.04 mm OD	10059	10059-600

**Sky® 4.0mm ID Single Taper Inlet Liner w/ Wool**

For Agilent GCs equipped with split/splitless inlets

ID x OD x Length	ea.	5-pk.	25 pk.
4.0 mm x 6.5 mm x 78.5 mm	23303.1	23303.5	23303.25

**EZ Twist Top® Split/Splitless Injection Port** for Agilent 7890 GCs

Description	kit
<b>Injection Port Assembly Kit, Siltek Treated</b>	
Includes: Siltek weldment, Siltek shell weldment, 2 weldment O-rings, Siltek Dual Vespel Ring inlet seal, septum nut, reducing nut, stainless steel capillary nut for use with 1/16" ferrules, and weldment removal tool	22178

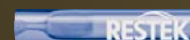
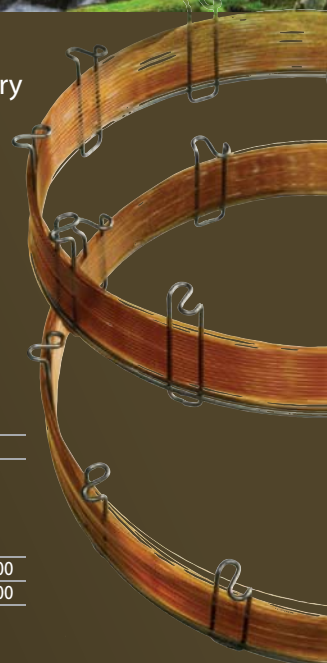
**SPE Cartridges**

Description	Tube Volume, Bed Weight	qty.	cat.#
<b>EPA Methods 521 &amp; 522</b>			
Activated charcoal packing,	6 mL, 2 g	30-pk.	26032

All cartridges are manufactured using high density polypropylene and have polyethylene frits unless otherwise noted. Cartridges may be processed by any one or all of these techniques: positive pressure, sidearm flask, centrifuge, or vacuum manifold.

**Reference Standards: US EPA Methods**

Conc. In Solvent and Volume:	Tetrahydrofuran-d8	Standards 1,4-Dioxane-d8	1,4-Dioxane
2,000 µg/mL in P&T methanol, 1 mL/ampul	30112 (ea.)	30614 (ea.)	30287 (ea.)



Also, visit [www.restek.com/press-tight](http://www.restek.com/press-tight)  
for Universal Press-Tight® Connectors and  
[www.restek.com/flip](http://www.restek.com/flip) for Flip Seal™ Inlet Seals

*Our CSR-LVSI work builds on work by chemists at Thermo Scientific (P. Magni, T. Porzano, Concurrent Solvent Recondensation Large Sample Volume Splitless Injection, J. Sep. Sci. 26 (2003) 1491). Patent No: US 6,955,709 B2.*

# People Rely on You for Food Safety

## Rely on Restek for Fast, Accurate Data

We have everything you need to complete your food safety analyses quickly and with confidence. Whether you're testing for pesticide residues, melamine, PAHs, or other harmful contaminants, you'll find the sample prep products, certified reference materials (CRMs), GC columns, and GC accessories to meet method requirements at [www.restek.com](http://www.restek.com)



### Sample Preparation:

For Quick–Easy–Cheap–Effective–Rugged–Safe sample preparation, especially for multiresidue pesticide work, think Q-sep™ QuEChERS products.

[www.restek.com/quenchers](http://www.restek.com/quenchers)



Restek also offers a full line of solid phase extraction (SPE) cartridges for reliable cleanup of PAH samples and more.

[www.restek.com/spe](http://www.restek.com/spe)



### Certified Reference Materials:

Our ISO-accredited manufacturing and QC testing laboratories in Bellefonte, PA, produce a full line of derivatization reagents, QC standards, internal standards, and single-component mixes for food safety work.

[www.restek.com/Reference-Standards](http://www.restek.com/Reference-Standards)



### GC Columns:

The Rxi®-5Sil MS column is ideal for pesticide residue analysis. Engineered to be a low-bleed GC-MS column, it features excellent inertness for lower detection limits.

If you need to separate PAHs that cannot be distinguished by mass spectrometry, turn to the Rxi®-17Sil MS column. It offers increased accuracy for PAHs of regulatory and health concern and ensures reliable trace-level results.

[www.restek.com/rxi](http://www.restek.com/rxi)



### GC Accessories:

Exceptionally inert Sky® inlet liners take advantage of a state-of-the-art deactivation to improve trace-level analysis, increase accuracy and precision, and ensure liner-to-liner reproducibility—even when using wool!

[www.restek.com/sky](http://www.restek.com/sky)



For food-specific applications and an extended products, visit [www.restek.com/fff](http://www.restek.com/fff)



# Improve Your Basic Compound Analysis With New Rtx®-Volatile Amine Columns



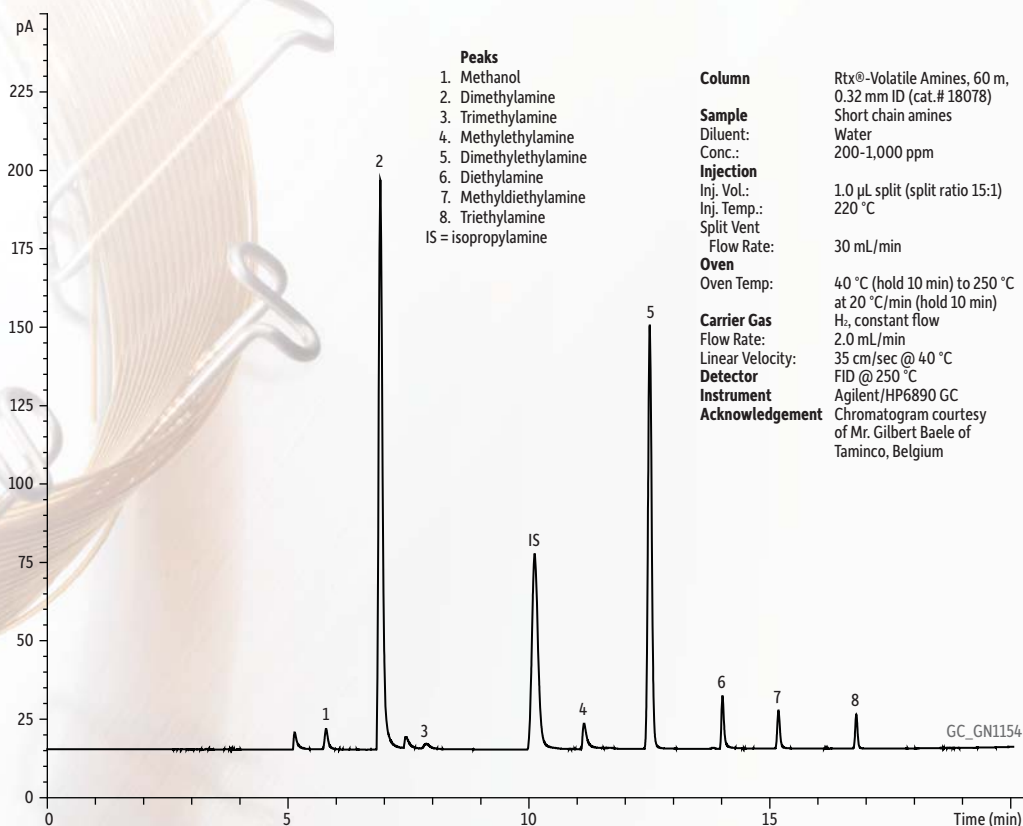
- Unique selectivity for baseline resolution of all volatile amines.
- Excellent inertness assures accuracy and sensitivity for volatile amines, including free ammonia.
- Highly robust phase withstands repeated water injections, resulting in longer column lifetime.
- High temperature stability (290 °C) ensures elution of amines up to C16 and allows contaminants to be removed by “baking out” the column.

## Rtx®-Volatile Amine Columns (fused silica)

Description	temp. limits	qty.	cat.#
15 m, 0.32 mm ID	-60 to 290 °C	ea.	18076
30 m, 0.32 mm ID	-60 to 290 °C	ea.	18077

Please Note: We recommend using base-deactivated fused silica guard columns and base-deactivated liners with Rtx®-Volatile Amine columns.

### Short Chain Amines in Water on Rtx®-Volatile Amine





NEW!

# Certified Reference Materials (CRMs) for Water Analysis

## EPA 524.3

In support of the U.S. Safe Drinking Water Act (SDWA), Restek offers the most complete set of EPA 524.3 reference standards for the monitoring of purgeable organic compounds in drinking water—using as few as three ampules! In addition, this collection also covers the seven volatile organic compounds (VOCs) included in the Unregulated Contaminant Monitoring Rule 3 (UCMR3).

- Full 82-component EPA 524.3 list in as few as three ampules—reduce prep time and chances for error or contamination.
- VOA MegaMix® ampul includes oxygenates—no need to order separately.
- Volatile gases prepared separately—replace without wasting money on full list.
- Two options for internal and surrogate standards—separate or combined mix.
- Also ideal for surface water and groundwater testing.

### EPA 524.3 Reference Standards (5 separate mixes)\*

Description	Conc. in Solvent and Volume	cat.#
524.3 VOA MegaMix	2,000 µg/mL each in P&T methanol, 1 mL/ampul	30013
524.3 Gas Calibration Mix	2,000 µg/mL each in P&T methanol, 1 mL/ampul	30014
524.3 Internal Standard Mix	2,000 µg/mL each in P&T methanol, 1 mL/ampul	30015
524.3 Surrogate Standard	2,000 µg/mL each in P&T methanol, 1 mL/ampul	30016
524.3 Internal Standard/Surrogate Mix	2,000 µg/mL each in P&T methanol, 1 mL/ampul	30017

\*Note: For full compound list visit [www.restek.com/524.3-standards](http://www.restek.com/524.3-standards)

## UCMR3

The Unregulated Contaminant Monitoring Rule 3 (UCMR3) requires public water systems (PWSs) serving more than 10,000 people, as well as 800 PWSs serving 10,000 or fewer people, to conduct assessment monitoring of 28 chemicals. Restek has a wide selection of single and mix CRMs to help you meet UCMR3 requirements.

### EPA 539 Calibration Standard for UCMR3 (7 components)

4-androstene-3,17-dione.....	100 µg/mL	estrone.....	200
equilin.....	200	17- $\alpha$ -ethynylestradiol.....	350
17- $\beta$ -estradiol.....	250	testosterone.....	100
estriol.....	200		

Description	Conc. in Solvent and Volume	cat.#
EPA 539 Calibration Stock Standard	In acetonitrile, 1 mL/ampul	31998

### UCMR3 Method 524.3 Standard (9 components)

bromochloromethane.....	600 µg/mL	chloromethane.....	2,000
bromomethane.....	2,000	1,1-dichloroethane.....	300
1,3-butadiene.....	1,000	<i>n</i> -propylbenzene.....	300
sec-butylbenzene.....	400	1,2,3-trichloropropane.....	300
chlorodifluoromethane (CFC-22).....	800		

Description	Conc. in Solvent and Volume	cat.#
UCMR3 Method 524.3 Standard	In P&T methanol, 1 mL/ampul	30642

### Single Component Standards

1,2,3-trichloropropane	2,000 µg/mL in P&T methanol, 1 mL/ampul	30429
1,3-butadiene	2,000 µg/mL in P&T methanol, 1 mL/ampul	30622
chloromethane	2,000 µg/mL in P&T methanol, 1 mL/ampul	30267
1,1-dichloroethane	2,000 µg/mL in P&T methanol, 1 mL/ampul	30276
bromomethane	2,000 µg/mL in P&T methanol, 1 mL/ampul	30253
bromochloromethane	2,000 µg/mL in P&T methanol, 1 mL/ampul	30225
1,4-dioxane	2,000 µg/mL in P&T methanol, 1 mL/ampul	30287

## PPCPs and EDCs

Pharmaceutical and personal care products (PPCPs) and endocrine disrupting compounds (EDCs) standards are now available for labs monitoring both wastewater and drinking water. Choose from three stable formulations containing the most common compounds of interest.

### Steroids and Mixed Pharmaceuticals Mix (10 components)

bisphenol A	17- $\alpha$ -ethynylestradiol	progesterone
diclofenac sodium salt	4- <i>para</i> -nonylphenol	testosterone
17- $\beta$ -estradiol	4- <i>tert</i> -octylphenol	
estrone	primidone	

Description	Conc. in Solvent and Volume	cat.#
Steroids and Mixed Pharmaceuticals Mix	200 µg/mL each in acetonitrile, 1 mL/ampul	31117

### Pharmaceuticals Mix #1 (8 components)

acetaminophen	ciprofloxacin HCL	sulfamethoxazole
caffeine	erythromycin USP	trimethoprim
carbamazepine	fluoxetine HCL	

Description	Conc. in Solvent and Volume	cat.#
Pharmaceuticals Mix #1	200 µg/mL each in P&T methanol, 1 mL/ampul	31116

### Pharmaceuticals Mix #2 (4 components)

gemfibrozil	naproxen
ibuprofen	triclosan

Description	Conc. in Solvent and Volume	cat.#
Pharmaceuticals Mix #2	200 µg/mL each in P&T methanol, 1 mL/ampul	31118



# Solutions for Gas Sampling in the Field or the Refinery

Critical process decisions depend on accurate, representative data, and every Restek gas sampling product offers the robust performance required for reliable field and refinery applications. From innovative Sulfinert® passivation treatment to high-quality parts and technical service, you will find Restek is the best choice for gas sampling solutions.

## Sample Cylinders and Valves

- Wide range of high durability stainless steel sample cylinders and valves.
- Restek exclusive: Sulfinert® passivation, for more accurate recovery of mercury and sulfur compounds.
- DOT rated for high pressure and ultra-high pressure.

### Sample Cylinders

- Range of cylinder sizes from 75 cc to 2,250 cc.
- All cylinders have 1/4" female NPT threads on both ends.
- TPED-compliant cylinders available for EU community.

### Sample Cylinder Valves

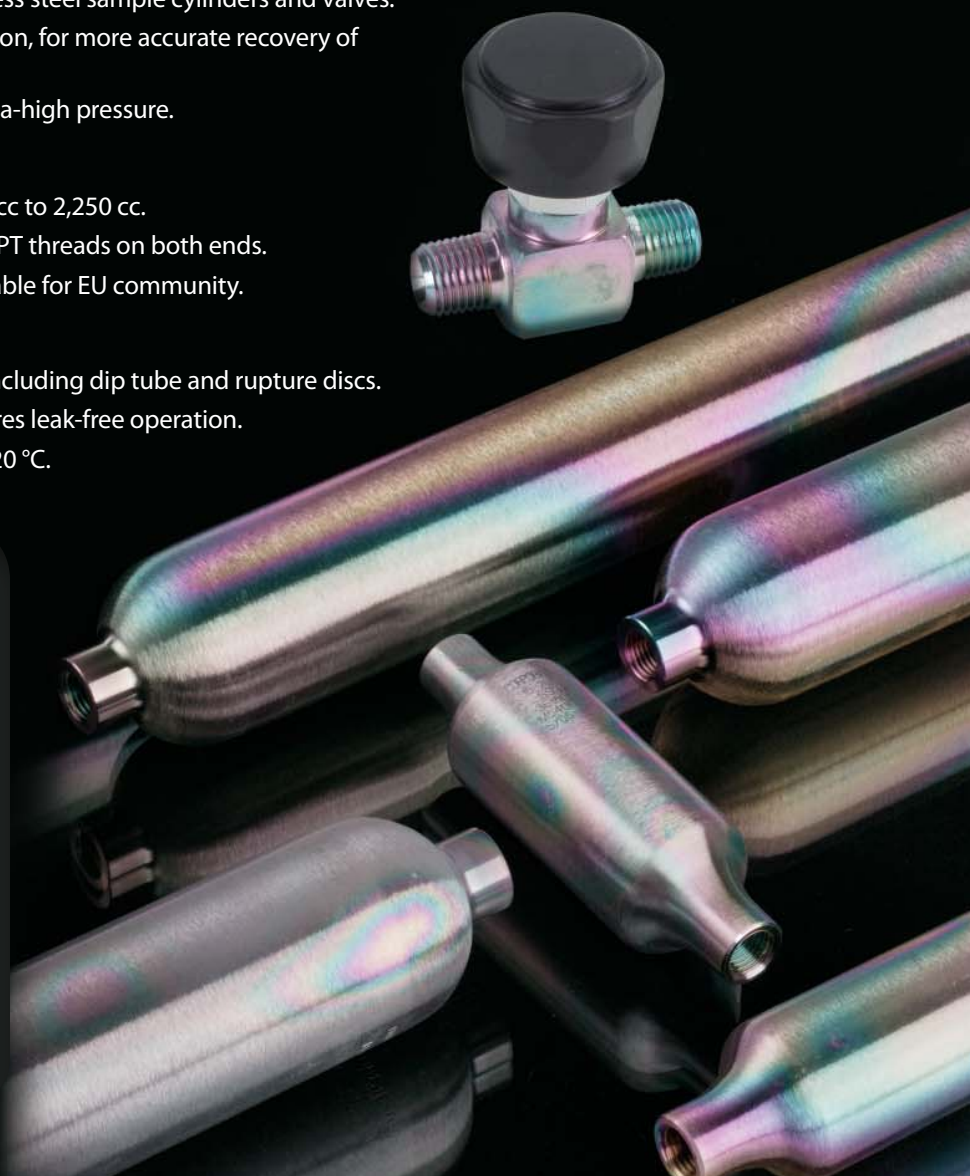
- Multiple valve configurations, including dip tube and rupture discs.
- Large, durable, Kel-F® seat ensures leak-free operation.
- Temperature range: -40 °C to 120 °C.

## Applications:

- ASTM D1265
- Hydrocarbon sampling in refineries and petrochemical plants

## Analyzing sulfur or mercury?

- Our unique Sulfinert® coating provides stable storage of sulfur and mercury at ppb levels.
- Inert coating doesn't flake, and it's more durable than PTFE.



# High-Capacity TO-Clean Air Canister Cleaning System

## Improves Lab Efficiency



### Specifications:

#### TO-Clean Oven

Dimensions: 44"H x 48"W x 27"D

Weight: 525 lbs

#### Cart

Dimensions: 29"H x 48"W x 30"D

Weight: 486 lbs

#### Dewar

Weight: 5 lbs.

- EPA Method TO-14A/15 compliant.
- Powerful pump can achieve 50 mTorr in 30 minutes for 12 6-liter canisters.
- Custom-built trays for different canister sizes.
- 1 year limited warranty.
- Fully assembled and ready to use.

TO-Clean from Wasson-ECE Instrumentation is a revolutionary canister cleaning system designed to take the guesswork out of canister cleaning. The system is fully automated, allowing the user to start a cleaning cycle and walk away. This is a high performance system that is easy to use and consistently produces excellent results.

Feature	Benefit
Large capacity—holds 12 6-liter cans or 24 1-liter cans.	Twice the capacity of other ovens for faster turnaround.
Embedded touch screen controller.	No separate computer needed.
Adjustable oven control up to 110 °C.	Cleans canisters AND valves faster and more completely than heating bands.
10 user defined methods.	Each cleaning cycle parameter can be configured separately to minimize overall cycle time.
Edwards RV-8 vacuum pump.	Cheaper to run and maintain than 2 pump alternatives.
Dewar with stainless steel vacuum and pressure cold traps.	Keeps the system clean—prevents contamination from the pump, dirty canisters, pressure gas, or regulators.

Description	qty.	cat. #
TO-Clean Oven, 120 V, 60 Hz	ea.	22916
TO-Clean Oven, 220/230 V, 50/60 Hz	ea.	22917
<b>Optional Accessories (not included with TO-Clean Oven)</b>		
Oven Cart, 29" H x 48" W x 30" D, 12 gauge steel, push handle and casters	ea.	22919
1 L Option: includes tubing, fittings, and inserts for 24 1 L canisters	ea.	22920
3 L Option: includes tubing, fittings, and inserts for 12 3 L canisters	ea.	22126
Mini-Can Option: includes tubing, fittings, and inserts for either 48 400 cc or 48 1000 cc mini-canisters	ea.	22127
Humidification Chamber	ea.	24282

Shipping: Costs vary depending on ship-to location.

Note: Ovens are built on demand, therefore, a 10 week lead time is required on all orders. A limited cancellation and return policy applies to TO-Clean ovens; contact your local Restek representative for details.

Visit **[www.restek.com/air](http://www.restek.com/air)** for canisters, sampling kits, and a wide range of other air monitoring products.

# Restek Has Added ISO Guide 34 and 17025 Accreditations



## We Now Offer a Full Line of Certified Reference Materials!

Restek is proud to announce that our reference standard manufacturing and QA testing labs in Bellefonte, PA, have earned ISO Guide 34 and 17025 accreditations through A2LA. More than ever, you can rely on Restek for all of your reference standards, and now, you can also experience the advantages of our ISO accreditations:

- **Satisfy regulatory requirements** by sourcing CRMs from an accredited supplier.
- Benefit from the **exceptional product quality and customer service** needed to meet strict ISO 9001, Guide 34, and 17025 guidelines.
- Get the **same reliability and documentation with custom-formulated solutions** as you do with stock standards—both fall under Restek's accreditation.
- **Eliminate POs** by ordering primary- and secondary-source reference standards, GC and LC columns, sample prep supplies, and accessories from one vendor.

We invite you to visit [www.restek.com/iso](http://www.restek.com/iso) to learn more about our ISO quality credentials and view our certificates (including scopes of accreditation).

If you have any questions or would like more information, feel free to contact customer service at **814-353-1300, ext. 3**, or [csreps@restek.com](mailto:csreps@restek.com)

*Note: If your lab must use certified reference materials (CRMs), please be sure to tell your Restek representative when ordering so we can help you meet your regulatory requirements as we transition our inventory.*

#### PATENTS & TRADEMARKS

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# RESTEK

Lit. Cat.# GNES1634-INT

2012.3

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Get the widest range  
of alternate selectivity  
available—with just  
4 columns!

RESTEK  **USLC™**

Ultra Selective  
Liquid Chromatography™

You'll find fast, effective  
method development at  
[www.restek.com/uslc](http://www.restek.com/uslc)



**Come visit  
Restek**

at these upcoming events:

## NOVEMBER 2011

1–4 | RAFA • Prague, Czech Republic

14–17 | EAS • Somerset, NJ, USA

For the full calendar, go to  
[www.restek.com/events](http://www.restek.com/events)

## What's New!

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# True Blue Performance

Exceptionally inert, Sky™ inlet liners with a new **state-of-the-art deactivation** improve trace level analysis.

**Sky**™  
Inlet Liners

- **Increase accuracy and precision** by preventing loss of sensitive analytes—even when using wool.
- **Achieve lower detection limits** for a wide range of active compounds.
- **Ensure liner-to-liner reproducibility** through consistent manufacturing and extensive testing.



Patent pending

**Sky™ inlet liners are available in  
1-, 5-, and 25-packs for all common GCs:**

Agilent • PerkinElmer • Shimadzu • Thermo Scientific • Varian

**Choose from a wide variety of configurations and styles:**



2mm Splitless



4mm Cyclo Double Taper Gooseneck



Low Pressure Drop Precision Liner w/Wool



Auto SYS XL PSS Split/Splitless w/Wool



3.5mm Precision Liner w/Wool



3.5mm Single Taper Gooseneck



5mm Straight



5mm Splitless



4mm Split Liner w/Glass Frit



4mm Single Taper Gooseneck

**RESTEK**

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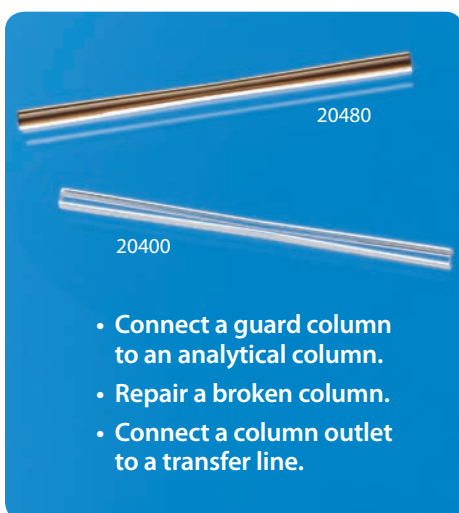
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# Gas Generators From Restek

## Affordable, Reliable, and Safe

Save on Hydrogen, Zero Air, Nitrogen,  
and LC/MS Generators as well  
as FID Gas Stations!

Go to [www.restek.com/gas](http://www.restek.com/gas) for more information.



## Get a Leak-Tight Seal Between Fused Silica Capillary Columns

### Use a Universal Press-Tight® Connector

- Deactivated Press-Tight® connectors maintain complete inertness for the GC flow path.
- Siltek® deactivated connectors are ideal for organochlorine pesticides analysis.
- Fit column ODs from 0.33–0.74 mm (Restek 0.1 mm–0.53 mm ID).

Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	
Universal Press-Tight Connectors, Siltek Deactivated	20480	20449	

Visit [www.restek.com/press-tight](http://www.restek.com/press-tight) for more!

## Reversible Flip Seal™ inlet seals *last twice as long* for the same price!

- Reversible design lets you flip the inlet seal and use it twice as many times.
- Vespel® ring embedded in top and bottom surface eliminates need for a washer.
- Highly inert gold- and Siltek®-deactivated seals reduce breakdown and adsorption of active compounds, maximizing component transfer to GC column.
- Lower leak rate compared to original equipment manufacturer's metal inlet seals.

restek innovation!  
Patented



0.8mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23407	23409
Siltek Deactivated	23408	23410
1.2mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23411	23413
Siltek Deactivated	23412	23414
Flip Seal Dual Vespel Ring Inlet Seal Kit	qty.	cat.#
Includes: gold-plated 0.8mm ID inlet seal, reducing nut adaptor, 1/16" SS nut	kit	23406

Note: The Flip Seal requires a special reducing nut adaptor fitting, which is included in the kit. The Flip Seal Adaptor can be used with standard 1/16" ferrules.

For a complete product listing, visit [www.restek.com/flip](http://www.restek.com/flip)



# Choose Silcosteel® Regulators for Exceptional Inertness and Corrosion Resistance

Single and dual stage regulators are available with Silcosteel® surface treatment. This proprietary passivation process, developed by SilcoTek™, provides excellent inertness for sulfur and mercury calibration standards and improved corrosion resistance over bare 316L stainless steel or other more expensive alloys.

Silcosteel® treated sampling and transfer systems allow oil and gas exploration companies, chemical and petrochemical plants, and refineries to obtain accurate sulfur and mercury data every time with no delay, sample errors, or false readings, down to part-per-billion (ppb) levels. Analysts charged with monitoring sulfur and mercury levels in process streams can save thousands of dollars in improved yields, better test cycle times, and improved system reliability.

Outlet pressure: 0 to 100 psig      Inlet gauge: 0 to 4000 psig  
Outlet gauge: 30" – 0 to 200 psig      Outlet assembly: diaphragm valve, 1/4" tube fitting



## Applications:

- CEM Continuous Emission Monitoring
- Environmental Stack and Gas Emission Standards
- Low level sulfur and mercury analysis
- Reactive or corrosive gases
- Off-shore platform systems
- Corrosive and salt water exposure

Description	qty.	cat.#
<b>Single-Stage Regulator</b>		
CGA 330 (H <sub>2</sub> S and other reduced sulfurs)	ea.	21361-5
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21361-6
CGA 660 (NO, NO <sub>2</sub> , SO <sub>2</sub> )	ea.	21361-11
<b>Dual-Stage Regulator</b>		
CGA 330 (H <sub>2</sub> S and other reduced sulfurs)	ea.	21360-2
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21360-7
CGA 660 (NO, NO <sub>2</sub> , SO <sub>2</sub> )	ea.	21360-12

For other CGA fittings, please contact your local Restek representative.

Our complete line of regulators can be found at [www.restek.com/regulators](http://www.restek.com/regulators)

## Precleaned VOA Sampling Vials Arrive Ready to Use

- Container, liner, and closure cleaned and assembled.
- Open top caps.
- Teflon® faced 0.125" silicone septa.
- Each case lot numbered.

Description	Volume	Color	Material	Screw-Thread Size	qty.	cat.#
Precleaned VOA Vials	20mL	Clear	Glass	24mm/400	72-pk.	21798
Precleaned VOA Vials	20mL	Amber	Glass	24mm/400	72-pk.	21799
Precleaned VOA Vials	40mL	Clear	Glass	24mm/400	72-pk.	21796
Precleaned VOA Vials	40mL	Amber	Glass	24mm/400	72-pk.	21797
Collection Vials for ASE 200	60mL	Clear	Glass	24mm/400	72-pk.	26121
Collection Vials for ASE 200	60mL	Amber	Glass	24mm/400	72-pk.	26122
Replacement Septa, 24mm x 0.125"			Teflon-lined silicone		100-pk.	24694



## Super Septa!

- Preconditioned and ready to use.
- Precision molding assures consistent, accurate fit.
- Do not adhere to hot metal surfaces.
- Packaged in precleaned glass jars.

**Restek IceBlue® Septa**—Usable to 250 °C inlet temperature.

**BTO® Septa\***—Usable to 400 °C inlet temperature.

\* Note: For 17mm injectors, the maximum temperature is 330°C. Due to the injection port temperatures, Restek recommends using only BTO® septa in Thermo Scientific instruments.

## Restek Thermolite® Septa

- Usable to 340 °C inlet temperature.
- Excellent puncturability.
- A Restek exclusive!



Septum Diameter	25-pk.	50-pk.	100-pk.
5mm (3/16")	27120	27121	27122
6mm (1/4")	27123	27124	27125
7mm	27126	27127	27128
8mm	27129	27130	27131
9mm	27132	27133	27134
9.5mm (3/8")	27135	27136	27137
10mm	27138	27139	27140
11mm (7/16")	27141	27142	27143
11.5mm	27144	27145	27146
12.7mm (1/2")	27147	27148	27149
17mm	27150	27151	27152
Shimadzu Plug	27153	27154	27155

Visit [www.restek.com/septa](http://www.restek.com/septa) for a complete listing.

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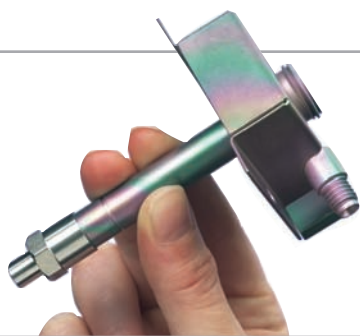
# ProFLOW 6000 Electronic Flowmeter

- Measures volumetric flow for most gases across a range of 0.5–500 mL/min.\*
- Accuracy of  $\pm 2\%$  of flow reading or  $\pm 0.2$  mL/min., whichever is greater.
- NIST traceable calibration.

Description	qty.	cat.#
Restek ProFLOW 6000 Electronic Flowmeter with Hard-Sided Carrying Case	ea.	22656
ProFLOW 6000 Recalibration Service	ea.	22656-R

\*The flowmeter is designed to measure clean, dry, non-corrosive gases.

Visit [www.restek.com/flowmeter](http://www.restek.com/flowmeter) for product features.



## Repair and Upgrade Your Agilent GC!

Did you know that Restek, your trusted source for top-quality GC columns and accessories, also offers a whole line of innovative replacement products for Agilent GCs? From injector to detector, the GC accessory parts you need are at [www.restek.com/gcacc](http://www.restek.com/gcacc)



## Restek Offers a Complete Line of Ferrules for Convenient One-Stop Shopping



### VespeL® Ferrules

- 100% high-temperature polyimide.
- Stable to 350 °C.
- Durable, leak-tight.

### Graphite Ferrules

- Preconditioned to eliminate out-gassing.
- High-purity, high-density graphite.
- Smoother surface and cleaner edges than conventional graphite ferrules.
- No binders to off-gas or adsorb analytes.
- Stable to 450 °C.

### VespeL®/Graphite Ferrules

- 60%/40% VespeL®/graphite blend, offering great sealing and ease of workability.
- Seal with minimal torque, reusable, and preferred for vacuum and high-pressure.
- Stable to 400 °C.
- Recommended for mass spec transfer lines.

### Capillary Ferrules for 1/16-Inch Compression-Type Fittings

Ferrule ID	Fits Column ID	qty.	VespeL	Graphite	VespeL/Graphite
0.3mm		10-pk.	22213	20233	20275
0.4mm	0.10/0.15/0.18/0.25/0.28mm	10-pk.	22214	20200	20211
0.4mm	0.10/0.15/0.18/0.25/0.28mm	50-pk.	—	20227	20229
0.5mm	0.32mm	10-pk.	22215	20201	20212
0.5mm	0.32mm	50-pk.	—	20228	20231
0.6mm	0.28mm**	10-pk.	—	—	20232
0.8mm	0.45/0.53mm	10-pk.	22216	20202	20213
0.8mm	0.45/0.53mm	50-pk.	—	20224	20230
1.0mm	0.75mm*	10-pk.	22217	21058	24912
1.2mm	0.75mm*	10-pk.	22218	—	—
1.6mm	1.00mm*	10-pk.	—	21060	—

### Compact Ferrules for Agilent 5890/6890/6850/7890 GCs

Ferrule ID	Fits Column ID	qty.	Graphite	VespeL/Graphite
0.4mm	0.25/0.28mm	10-pk.	20250	20238
0.4mm	0.25/0.28mm	50-pk.	20251	20239
0.5mm	0.32mm	10-pk.	21007	20248
0.5mm	0.32mm	50-pk.	21008	20249
0.8mm	0.45/0.53mm	10-pk.	20252	20263
0.8mm	0.45/0.53mm	50-pk.	20253	20264
1.0mm	0.75mm*	10-pk.	21059	—
1.6mm	1.00mm*	10-pk.	21061	—

\*For micropacked columns. \*\*For 0.28 mm MXT columns.



# Introducing New Alumina MAPD PLOT Columns in Fused Silica and Metal!

Restek PLOT columns have set a new standard with better bonding and greater efficiency than similar columns from competitors. The superior stabilization technology and wide range of deactivations that are the foundation of our PLOT column line have now been used to develop **Rt®- and MXT®-Alumina BOND/MAPD PLOT columns**. These new columns, available in metal and fused silica, are **stable up to 250 °C** and provide better temperature stability than any other alumina MAPD PLOT column on the market!

## Rt®-Alumina BOND/MAPD Columns (fused silica PLOT)

ID	df	temp. limits	30-Meter	50-Meter
0.32mm	5µm	to 250°C	19779	19780
0.53mm	10µm	to 250°C	19777	19778

## MXT®-Alumina BOND/MAPD Columns (Siltek®-treated stainless steel PLOT)

ID	df	temp. limits	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.53mm	10µm	to 250°C	79728-273	79728

## The Restek PLOT column family—a new benchmark for performance!

Feature	Benefit
Full product line based on next generation PLOT column technology.	<ul style="list-style-type: none"><li>• Superior column performance.</li><li>• Porous polymer, alumina, and molecular sieve PLOT columns all available from a single source.</li></ul>
New bonding process minimizes particle release.	<ul style="list-style-type: none"><li>• Reduced column blockage.</li><li>• Reliable protection for instrument parts.</li></ul>
Consistent flow characteristics.	<ul style="list-style-type: none"><li>• Stable retention times.</li><li>• Predictable performance with Deans and related flow switching techniques.</li></ul>
Outstanding peak symmetry.	<ul style="list-style-type: none"><li>• Improved accuracy for impurity analysis of gases, solvents, and hydrocarbons.</li></ul>
Many products also available in metal MXT® capillary column tubing.	<ul style="list-style-type: none"><li>• Rugged material withstands rough handling and shock.</li><li>• Small coil diameters are perfect for tight spaces, such as process or field instruments.</li></ul>



# 3-IN-1 TECHNOLOGY

Highest Inertness • Lowest Bleed • Exceptional Reproducibility

## Lower Detection Limits with Ground-Breaking Column Technology

Rxi® technology unifies outstanding inertness, low bleed, and high reproducibility into a single high performance column line. Take variation out of the equation and get the most consistent results for trace level analysis with Rxi® columns.

### phases available

- Rxi®-1ms
- Rxi®-1HT
- Rxi®-5ms
- Rxi®-5Sil MS
- Rxi®-5HT
- Rxi®-XLB
- Rxi®-624Sil MS
- Rxi®-35Sil MS
- Rxi®-17
- Rxi®-17Sil MS
- Rxi® guard/retention gap columns
- Rxi® secondary columns for GCxGC (see page 10)



### Make the Switch to Rxi® columns!

Experience what Rxi® did for many others

- Lower detection limits
- Better peak shape
- Accurate results



# Simplify GC Analysis of Dioxins and Furans

Successfully monitoring chlorinated dioxins and furans requires the unbiased determination of 2,3,7,8-chlorine substituted congeners like highly toxic TCDDs and TCDFs. Fortunately, Restek offers proven solutions for both initial and confirmatory analyses.

## Initial Analysis — Rxi®-5Sil MS Column (fused silica)

- Provides isomer specificity for 2,3,7,8-TCDD, 2,3,7,8-TCDF, and 1,2,3,7,8-PeCDD—with one column!
- Resolves 15 of the 17 tetra- through octa-chlorinated 2,3,7,8-substituted dioxins and furans.
- Known elution orders for all tetra- through octa-chlorinated dioxin and furan congeners.
- Low bleed and high thermal stability up to 350 °C.

(low polarity Crossbond® silarylene phase; similar to 5% phenyl/95% dimethyl polysiloxane)

ID	df	temp. limits	60-Meter
0.18mm	0.10µm	-60 to 320/350°C	43607
0.25mm	0.25µm	-60 to 330/350°C	13626

## Confirmatory Analysis — Rtx®-Dioxin2 Column (fused silica)

- Low bleed and high thermal stability up to 340 °C for far greater life and reproducibility over cyano columns.
- Provides isomer specificity for 2,3,7,8-TCDD and 2,3,7,8-TCDF.
- Resolves 14 of the 17 tetra- through octa-chlorinated 2,3,7,8-substituted dioxins and furans.
- Known elution orders for all tetra- through octa-chlorinated dioxin and furan congeners.

(proprietary Crossbond® phase)

ID	df	temp. limits	40-Meter	60-Meter
0.18mm	0.18µm	20°C to 340°C	10759	
0.25mm	0.25µm	20°C to 340°C		10758

Ensure an inert sample pathway with Sky™ inlet liners! See page 2

## Inventory available for immediate delivery!



### Ultra-Clean Resin

#### XAD-2 Equivalent

- For adsorbing semivolatiles in air.
- Cleaned, GC tested and certified.
- Available in 100 gram quantities.

Although resin is excellent for trapping PAHs, it requires extensive clean-up because many of its impurities are PAH compounds. To save time, we do the cleaning for you! We test each batch by capillary GC/flame ionization detector to ensure cleanliness. Additional cleaning may be needed for trace residue work.



### SDVB Resin

#### XAD-2 Equivalent

- Styrene/divinylbenzene, equivalent to XAD-2 resin.
- Untreated, packaged in 1 kg plastic containers.
- Spherical, 20 to 60 mesh particles.

Description	qty.	cat.#
SDVB Resin	1kg	24053

Method:	Applications
EPA TO-13A:	PAHs in Ambient Air
ASTM D6209:	PAHs in Ambient Air
EPA Method 23:	Dioxins in Stationary Source Emissions
EPA Method 0010:	Semivolatiles in Stationary Source Emissions

Ultra-Clean Resin, 100 grams	cat.# 24230
------------------------------	-------------



Restek has supplies for all your air sampling needs!  
Visit [www.restek.com/air](http://www.restek.com/air)

## Fully Automated High-Capacity System Cleans Canisters With Ease!

- Twelve 6 L canister capacity; custom-built trays for different canister sizes.
- EPA Method TO-14A/15 compliant.
- Small footprint saves lab space.
- No computer needed—uses embedded touch screen controller.
- Save up to ten user defined methods.
- Automated system leak test.
- Isothermal oven cleans entire can AND valve more completely than band heaters.
- Includes Edwards RV-8 vacuum pump—no turbo pumps!
- One year limited warranty.

Description	qty.	cat.#
TO-Clean Oven, 120V, 60Hz	ea.	22916
TO-Clean Oven, 220/230V, 50/60Hz	ea.	22917
<b>Optional Accessories (not included with TO-Clean Oven)</b>		
	qty.	cat.#
Dewar, glass, 4300mL stainless steel u-tube trap	ea.	22918
Oven Cart, 29"H x 27"W x 49"D, 12 gauge steel, push handle and casters	ea.	22919
1L Option: includes tubing, fittings, and inserts for 24 1L canisters	ea.	22920
Humidification Chamber	ea.	24282

Note: Ovens are built on demand, therefore, a ten week lead time is required on all orders. A limited cancellation and return policy applies to TO-Clean ovens; contact your local Restek distributor for details.

Shipping: FedEx Ground, unless otherwise requested. Costs vary depending on ship-to location.



Dimensions:  
44"H x 48"W x 27"L  
Weight: 525 lbs

CE

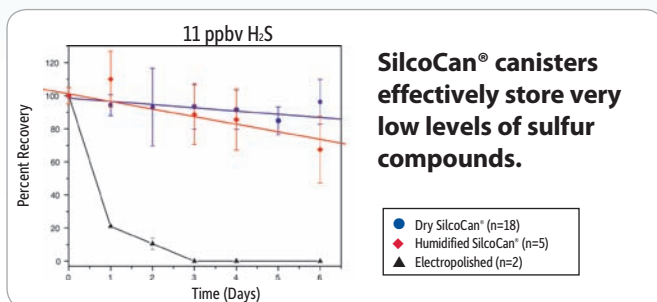


	Restek	Entech
Capacity	Twelve 6 L cans	Six 6 L cans
Software	Included	Separate

## Collect Air Samples With No Change in VOC Concentration

### SilcoCan® & TO-Can® Air Monitoring Canisters

- Siltek® deactivation offers excellent storage stability for sulfur VOCs at very low levels (1–20 ppbv), under dry or humid conditions.
- Variety of options, sizes, and pressure ranges available, including SUMMA can equivalent.
- Standard fittings compatible with all instrumentation and accessories.
- Repair service available to extend canister life.
- Ideal for ambient air (US EPA TO-14A, TO-15, ASTM D5466), indoor air, vapor intrusion, emergency response.



### Canister Options

Sizes	1, 3, 6, 15 L
Valves	Parker® diaphragm, Swagelok® bellows
Interior Coating	Electropolished, Siltek® treated
Gauges	3 vacuum/pressure ranges

### Applications

- Ambient Air (US EPA TO-14A, TO-15, ASTM D5466)
- Indoor Air
- Vapor Intrusion
- Emergency Response



# GCxGC Columns

Your One Source for 2D Gas Chromatography



- Wide range of stationary phases offers orthogonal separations.
- High thermal stability increases system ruggedness.
- Unrivaled column inertness for accurate analysis of active compounds.
- 0.15, 0.18, and 0.25 mm ID formats accommodate varying sample capacities, speeds, and detectors.
- Secondary columns come in convenient 2 m lengths for economical method development.

GCxGC is a powerful technique that allows you to accurately analyze highly complex samples. A first (primary) column performs a separation, and its effluent is continually focused and "injected" by a modulator onto a second (secondary) column, where another separation occurs. By choosing columns with differing (orthogonal) phases, it is possible to identify analytes that cannot be separated by a single column alone.

Restek has been performing comprehensive two-dimensional gas chromatography since its commercial inception. Our technical experts are ready to assist you with column selection and method development, so contact us or your Restek representative today!

## Columns

Restek GCxGC secondary columns can be matched with any Restek Rtx® or Rxi® primary column to create the perfect orthogonal separation for your application.

**Available Phases** (In order of increasing polarity):

Rxi®-1ms • Rxi®-5Sil MS • Rxi®-XLB • Rxi®-17Sil MS  
Rtx®-200 • Stabilwax®

For help pairing columns, visit  
[www.restek.com/gcxgc-combo](http://www.restek.com/gcxgc-combo)

## Accessories



### Protect Your GC and Analytical Column!

Restek Electronic Leak Detector  
[www.restek.com/leakdetector](http://www.restek.com/leakdetector)



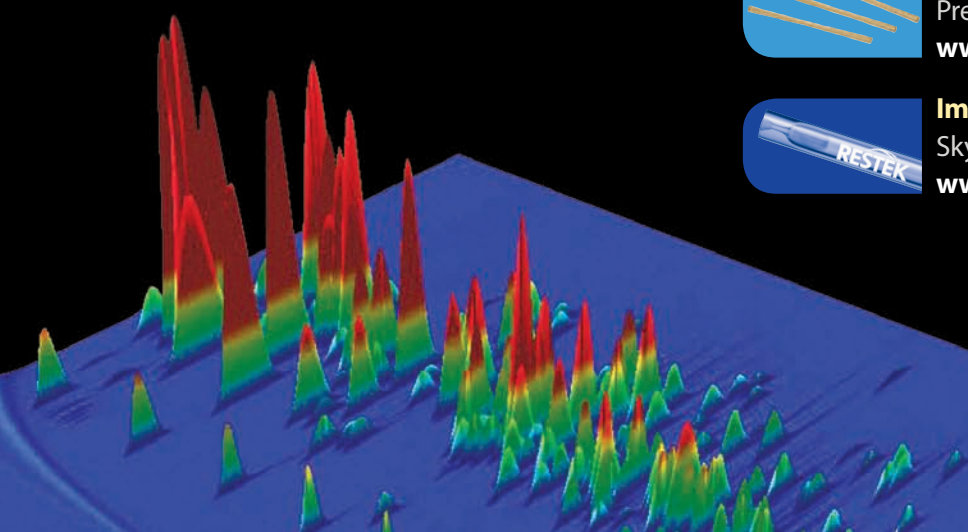
### Get a Leak-Tight Seal Between Columns

Press-Tight® Connector  
[www.restek.com/press-tight](http://www.restek.com/press-tight)



### Improve Trace Level Analysis

Sky™ Inlet Liners  
[www.restek.com/sky](http://www.restek.com/sky)





## Go Green!

Help Save the Environment and Save Time in the Lab With Q-sep™ QuEChERS Products

### REDUCE:

Easy-pour packets create far less waste than tubes of salts.



LIMITED TIME OFFER!

**FREE** 50-pack of salts!

[www.restek.com/gogreen](http://www.restek.com/gogreen)

### RECYCLE:

Recyclable boxes consist of at least 33% recycled cardboard.



### REUSE:

Teflon® FEP tubes are reusable indefinitely under normal use.



Available for European EN 15662, AOAC 2007.01, and Original Unbuffered Methods.

## Q-sep™ 3000 Centrifuge for QuEChERS



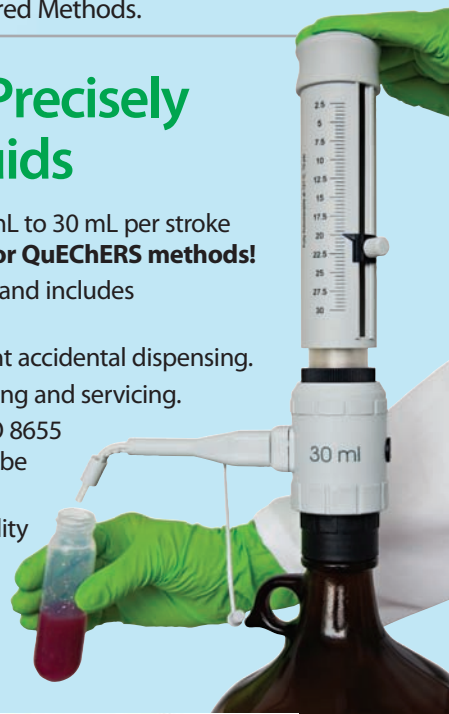
The economical Q-sep™ 3000 Centrifuge is the first specifically designed for QuEChERS methodology. This compact, quiet, yet powerful, unit spins at the 3,000 g force required by the European method. One-year warranty.

Description	qty.	cat.#
Q-sep 3000 Centrifuge, 110V	ea.	26230
Q-sep 3000 Centrifuge, 220V	ea.	26231
<b>Replacement Accessories</b>		
50mL Tube Carrier for Q-sep 3000 Centrifuge	2-pk.	26232
50mL Conical Tube Insert for Q-sep 3000 Centrifuge	6-pk.	26249
4-Place Tube Carrier for Q-sep 3000 Centrifuge	2-pk.	26233
2mL Tube Adaptors for Q-sep 3000 Centrifuge	4-pk.	26234

## Accurately & Precisely Dispense Liquids

- Set output volume from 2.5 mL to 30 mL per stroke (0.5 mL increments)—**ideal for QuEChERS methods!**
- Base features 30 mm threads and includes four adaptors.
- Safety discharge helps prevent accidental dispensing.
- Easy to disassemble for cleaning and servicing.
- Individually calibrated per ISO 8655 (certificate included) and can be recalibrated by user.
- Excellent chemical compatibility and 100% autoclavability.

Description	qty.	cat.#
Q-sep Bottle Top Solvent Dispenser, 2.5 mL - 30 mL	ea.	23990



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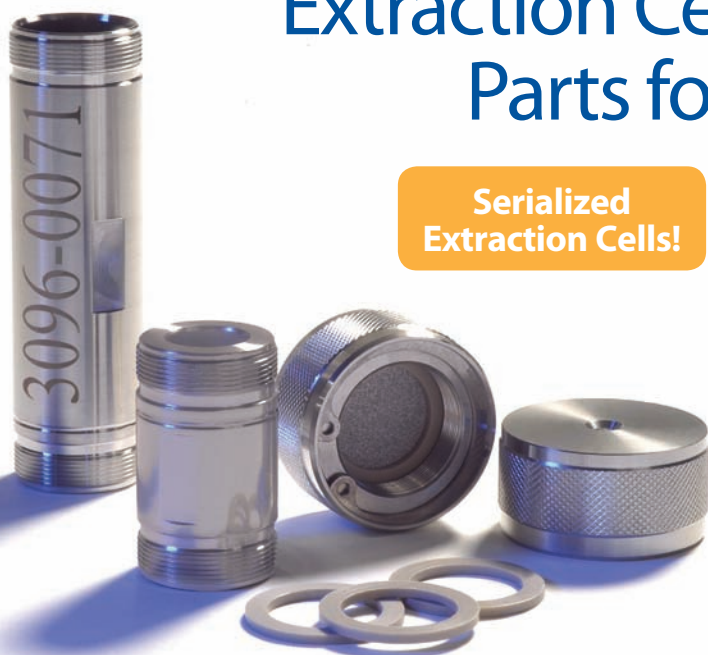
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## Extraction Cells and Replacement Parts for ASE® Systems

**Serialized  
Extraction Cells!**



**Autoseal Tip Assembly** for ASE® 200 Systems

**Diatomaceous Earth**

**Extraction Cell Parts** for ASE® 200 Systems

**Extraction Cell Parts** for ASE® 300/100 Systems

**Filters** for ASE® 200 Extraction Cells, 20mm

**Filters** for ASE® 300/100 Extraction Cells, 30mm

**PEEK Washers** for ASE® 200 Systems

**PEEK Washers** for ASE® 300/100 Systems

**Resprep™ Tools** for ASE® Systems

**Retaining Ring Pliers** for ASE® 100/200/300 Systems

**Sample Collection Bottles** for ASE® 300/100 Systems, 250mL

**Sample Collection Vials** for ASE® 200 Systems, 60mL

**Tubing Assembly** for ASE® 200 Systems

**Valves for ASE®** 100/200/300 Systems

Visit [www.restek.com/ASE](http://www.restek.com/ASE) for a complete product listing

## NEW! High-Quality Lab Glassware at an Inviting Price

- Kuderna-Danish Evaporator, Snyder Columns and Concentrator Tubes
- Soxhlet Extraction Apparatus
- Erlenmeyer and Class A Volumetric Flasks
- Auto-Zero and Squeeze-O-Matic Burets
- Separatory Funnels
- Repeating Pipettes
- Impingers



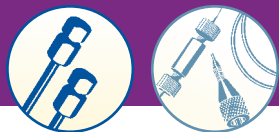
Buy today at [www.restek.com/glassware](http://www.restek.com/glassware)

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## RESTEK USLC™

### Ultra Selective Liquid Chromatography™

- Unique 4-column set offers the widest range of reversed phase selectivity available:
  - Aqueous C18
  - IBD
  - Biphenyl
  - PFP Propyl
- Efficient and effective method development.
- Fits any HPLC or UHPLC instrumentation.

Download our new *LC Method Development Toolbox* application note at [www.restek.com/USLC](http://www.restek.com/USLC)

## Gain Superior LC Temperature Control With Sidewinder Products

### Sidewinder LC Column Heater

- Easy to set up!
- Operation range: 5 °C above ambient to 85 °C,  $\pm 1$  °C.
- Lightweight, compact design fits in small spaces.
- Column holder can be placed in any orientation.
- Achieve optimum performance and efficiency when used in conjunction with a mobile phase pre-heater.

Description	Length	qty.	cat.#
Temperature Control Module and Column Holder	Long (25cm)	ea.	26516
Temperature Control Module and Column Holder	Short (10cm)	ea.	26517

### Don't Forget the Mobile Phase Pre-Heater



### Sidewinder LC Column Heater/Cooler

- Operation range: 5-55 °C,  $\pm 0.2$  °C.
- Ability to program multiple temperature points.
- Accommodates columns up to 30 cm in length and 7.8 mm ID.
- Compact design.
- Achieve optimum performance and efficiency when used in conjunction with a mobile phase pre-heater.

Description	qty.	cat.#
Sidewinder Heater/Cooler Temperature Control Module and Column Holder	ea.	26518

- Heats mobile phase before it enters a heated column.
- Minimizes temperature changes to help keep analyte peaks sharp.

Description	qty.	cat.#
15µL Mobile Phase Pre-heater, 0.010" ID	ea.	22484



# LC Columns & Accessories

## Biphenyl

### Leading Resolution in LC for Clinical and Forensic Applications

- Optimized for a wider range of compound chemistries compared to a C18 or phenyl column.
- Perfect for drugs of abuse, pharmaceuticals, metabolites, and more.
- Ultra Biphenyl columns are lot tested with a comprehensive drug panel to ensure confidence in method reproducibility.

Find product lists, applications, and more at [www.restek.com/biphenyl](http://www.restek.com/biphenyl)

## Get Highly Stable Baselines From The Degasys In-Line Vacuum Degasser

- Prevents oxygen from causing flow rate instability and baseline noise.
- Prevents bubbles from forming in check valves, at connections, or in detector flow cells.
- More effective than sonication or helium sparging.



### Specifications:

Residual Oxygen <sup>1</sup>	0.9ppm
Pressure Loss <sup>1</sup>	0.24psi (1.65kPa)
Internal Volume	500µL
Wetted Parts	Teflon AF, PTFE, ETFE, PPS
Max Flow Rate	7mL/min./channel
<sup>1</sup> At a flow rate of 1mL/min.	

Description	Voltage	qty.	cat.#
Mobile Phase Degasser (4 Channel, 7mL/min./channel)	110V	ea.	25189
Mobile Phase Degasser (4 Channel, 7mL/min./channel)	220V	ea.	25194

To prevent system damage, do not use the Degasys system with solutions containing TFA at concentrations greater than 5%.

## Produce Vortex Shear Mixing Over a Wide Range of Flows

- Efficient cross-flow shearing mechanism.
- Interchangeable cartridges.
- Reduced baseline noise.
- Improved gradient accuracy, for more reproducible results.
- Increased reaction efficiency in post-column derivatization.
- Increased sensitivity.

### HyperShear Static In-Line Mixers

Choose stainless steel or PEEK construction.



Volume	Stainless Steel		PEEK	
	qty.	cat.#	qty.	cat.#
1µL	ea.	26409	ea.	26410
25µL	ea.	26411	ea.	26412
50µL	ea.	25341	ea.	26413
150µL	ea.	25342	ea.	26414
250µL	ea.	25343	ea.	26415

### Ternary Tee Mixers

Stainless steel construction.



Description	Volume	qty.	cat.#
Ternary Tee Mixer	25µL	ea.	25138

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## Biodiesel Calibration Standards

Determining Free and Total Glycerin in B100 Biodiesel Methyl Esters by GC

Compound	Solvent	Conc.	cat.#	Compound	Solvent	Conc.	cat.#
(s)-(-)-1,2,4-butanetriol	pyridine	1,000	33024	monopalmitin	pyridine	5,000	33026
(s)-(-)-1,2,4-butanetriol (5mL)	pyridine	1,000	33032	tricaprin			
diolein (1,3-di[ <i>cis</i> -octadecenyl] glycerol)	pyridine	5,000	33022	(1,2,3-tricaprinoylglycerol)	pyridine	8,000	33025
glycerin	pyridine	500	33020	tricaprin (1,2,3-tricaprinoylglycerol) (5mL)	pyridine	8,000	33033
monolein (1-mono[ <i>cis</i> -9-octadecenyl]-rac-glycerol)	pyridine	5,000	33021	triolein (1,2,3-Tri[ <i>cis</i> -octadecenyl] glycerol)	pyridine	5,000	33023

Volume is 1mL/ampul unless otherwise noted. Concentration is µg/mL unless otherwise noted.

Visit [www.restek.com/biodiesel](http://www.restek.com/biodiesel)

# Q-sep™

## QuEChERS Products

Quick, Easy, Cheap, Effective, Rugged and Safe!

### NEW Standards Available!

**Standards for AOAC  
QuEChERS Method 2007.01**

- AOAC IS Solution 31963
- AOAC TPP Solution 31964
- AOAC QC Spike Mix 31999

[www.restek.com/quechers](http://www.restek.com/quechers)





# MegaMix<sup>®</sup>

## Time-Saving MegaMix<sup>®</sup> Environmental Reference Mixes

- Largest number of target analytes in one mix.
- Formulated for maximum stability.
- Available for a wide variety of methods.

[www.restek.com/megamix](http://www.restek.com/megamix)

**Free datapacks  
available online!**

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ISO 9001:2008  
cert.# FM80397

Lit. Cat.# GNES1328-INT

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GC ACCESSORIES QUARTERLY

# Spotlight

2011.3

Accurate Results  
Start With Reliable  
Equipment



ProFLOW 6000  
Electronic Flowmeter  
*See back cover.*



Restek Electronic  
Leak Detector  
*See page 5.*

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## Chromatography Products

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## True Blue Performance

- Increase accuracy and reproducibility with state-of-the-art deactivation.
- Achieve lower detection limits for a wide range of active compounds.
- Use wool with confidence—new quartz wool is deactivated after packing, preventing the loss of sensitive analytes.

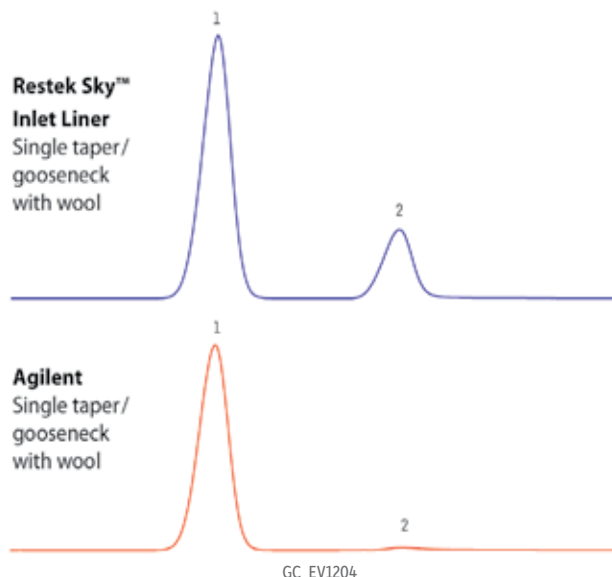
The innovative deactivation used for Sky™ liners results in exceptional inertness for a wide range of analyte chemistries. By reducing active sites and enhancing analyte transfer to the column, these liners increase accuracy and precision, allowing lower detection limits for many active compounds. In addition to improved data quality, you'll benefit from fewer liner changes and less downtime for maintenance.



### Greater Inertness Results in Higher Analyte Response

A common probe used to illustrate inertness is 2,4-dinitrophenol (2,4-DNP), which functions as an indicator of acid compound interactions. It is used to monitor system suitability in semivolatiles methods, which benefit from the use of wool to assist in sample vaporization. As shown in Figure 1, the response of 2,4-DNP with the Sky™ inlet liner, even at low concentrations, is superior to a competitor's liner. The Agilent liner with wool has active sites that adsorb 2,4-DNP and reduce its response. In contrast an excellent response is achieved using the Sky™ liner, even in the presence of wool.

**Figure 2** The state-of-the-art deactivation used for Sky™ liners with wool results in higher responses for active acid compounds, such as 2,4-DNP.



**Increase the response of  
active analytes with inert  
Sky™ inlet liners!**






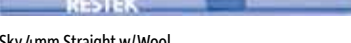




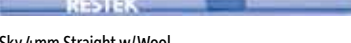







	2,4-DNP Response Factor
Restek	0.28
Agilent	0.02

- Peaks**
1. Acenaphthene (IS)
  2. 2,4-DNP

**Column** Rxi®-5Sil MS, 15 m, 0.25 mm ID, 0.25 µm (cat.# 13620); **Sample** 10 µg/mL each 2,4-dinitrophenol and acenaphthene standard in methylene chloride; **Injection** Inj. Vol.: 1 µL splitless (hold 1 min.); **Liner:** Comparison of Sky™ Single Taper/Gooseneck Inlet Liner with Wool (cat.# 23303.5) and Agilent Single Taper/Gooseneck Inlet Liner with Wool (cat.# 5062-3587); **Inj. Temp.:** 250 °C; **Detector** FID @ 300 °C.


## Sky™ Inlet Liners for Agilent GCs

COLUMN INSTALLS THIS END

Splitless Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky 2mm Splitless	2.0mm 6.5mm x 78.5mm	5181-8818 (ea.) 5183-4703 (5-pk.) 5183-4704 (25-pk.)	23313.1	23313.5	23313.25
 Sky 2mm Splitless w/Wool	2.0mm 6.5mm x 78.5mm		23314.1	23314.5	23314.25
 Sky 2mm Single Taper / Gooseneck	2.0mm 6.5mm x 78.5mm		23315.1	23315.5	23315.25
 Sky 2mm Single Taper / Gooseneck w/Wool	2.0mm 6.5mm x 78.5mm		23316.1	23316.5	23316.25
 Sky 4mm Straight	4.0mm 6.3mm x 78.5mm	210-3003 (ea.) 210-3003-05 (5-pk.)	23301.1	23301.5	23301.25
 Sky 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23300.1	23300.5	23300.25
 Sky 4mm Single Taper / Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3316 (ea.) 5183-4695 (5-pk.) 5183-4696 (25-pk.)	23302.1	23302.5	23302.25
 Sky 4mm Single Taper / Gooseneck w/Wool	4.0mm 6.5mm x 78.5mm	5062-3587 (ea.) 5183-4693 (5-pk.) 5183-4694 (25-pk.)	23303.1	23303.5	23303.25
 Sky 4mm Double Taper / Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3315 (ea.) 5183-4705 (5-pk.) 5183-4706 (25-pk.)	23308.1	23308.5	23308.25
 Sky 4mm Cyclo Double Taper / Gooseneck	4.0mm 6.5mm x 78.5mm		23310.1	23310.5	23310.25
Split Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23300.1	23300.5	23300.25
 Sky 4mm Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm	210-4004-5 (5-pk.)	23305.1	23305.5	23305.25
 Sky 4mm Cycloplitter	4.0mm 6.3mm x 78.5mm		23312.1	23312.5	23312.25
Split/Splitless Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23300.1	23300.5	23300.25
 Sky Low Pressure Drop Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm		23309.1	23309.5	
Direct Injection Liners for Agilent GCs (for 0.25/0.32/0.53mm ID Columns)	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky Drilled Uniliner (hole near bottom)	4.0mm 6.3mm x 78.5mm	G1544-80730 (ea.)	23306.1	23306.5	
 Sky Drilled Uniliner (hole near bottom) w/Wool	4.0mm 6.3mm x 78.5mm		23307.1	23307.5	
 Sky Drilled Uniliner (hole near top)	4.0mm 6.3mm x 78.5mm		23311.1	23311.5	23311.25


# Sky™ Inlet Liners

## Sky™ Inlet Liners for PerkinElmer GCs

PSS Liners for PerkinElmer GCs	ID OD x Length	Similar to PE part #	ea.	cat.# 5-pk.	25-pk.
 Sky Auto SYS XL PSS Split/Splitless w/Wool	2.0mm 4.0mm x 86.2mm	N6121004	23317.1	23317.5	23317.25

## Sky™ Inlet Liners for Shimadzu GCs

Split Liners for Shimadzu 17A, 2010, and 2014 GCs	ID OD x Length	Similar to Shimadzu part #	ea.	cat.# 5-pk.	25-pk.
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 Sky 3.5mm Split	3.5mm 5.0mm x 95mm	221-41444-01	23318.1	23318.5	23318.25
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 Sky 3.5mm Split w/Wool	3.5mm 5.0mm x 95mm		23319.1	23319.5	23319.25
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 Sky 3.5mm Precision Liner w/Wool	3.5mm 5.0mm x 95mm		23320.1	23320.5	
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Splitless Liners for Shimadzu 17A, 2010, and 2014 GCs	ID OD x Length	Similar to Shimadzu part #	ea.	cat.# 5-pk.	25-pk.
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 Sky 3.5mm Single Taper / Gooseneck	3.5mm 5.0mm x 95mm	221-48335-01	23321.1	23321.5	23321.25
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 Sky 3.5mm Single Taper / Gooseneck w/Wool	3.5mm 5.0mm x 95mm		23322.1	23322.5	
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Split Liners for Thermo TRACE, 8000, 8000 TOP, and Focus SSL	ID OD x Length	Similar to TS part #	ea.	cat.# 5-pk.	25-pk.
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 Sky 5mm Straight	5.0mm 8.0mm x 105mm	453 20030	23323.1	23323.5	23323.25
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 Sky 5mm Straight w/Wool	5.0mm 8.0mm x 105mm		23324.1	23324.5	23324.25
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 Sky 5mm Precision Liner w/Wool	5.0mm 8.0mm x 105mm		23327.1	23327.5	
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Splitless Liners for Thermo TRACE, 8000, 8000 TOP, and Focus SSL	ID OD x Length	Similar to TS part #	ea.	cat.# 5-pk.	25-pk.
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 Sky 5mm Splitless	5.0mm 8.0mm x 105mm	453 20033	23325.1	23325.5	23325.25
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 Sky 5mm Splitless w/Wool	5.0mm 8.0mm x 105mm		23326.1	23326.5	23326.25
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Sky™ Inlet Liners for Varian GCs	ID OD x Length	Similar to Varian part #	ea.	cat.# 5-pk.	
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Liners for Varian 1177 S/SL Injection Ports	ID OD x Length	Similar to Varian part #	ea.	cat.# 5-pk.	
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 Sky 4mm Split Liner w/Glass Frit	4.0mm 6.3mm x 78.5mm		23330.1	23330.5	
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 Sky 4mm Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm		23328.1	23328.5	
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 Sky 4mm Single Taper / Gooseneck	4.0mm 6.5mm x 78.5mm	392611927	23331.1	23331.5	
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 Sky 4mm Single Taper / Gooseneck w/Wool	4.0mm 6.5mm x 78.5mm	392611936	23332.1	23332.5	
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Liners for Varian 1078/1079 Injection Ports	ID OD x Length	Similar to Varian part #	ea.	cat.# 5-pk.	25-pk.
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 Sky 3.4mm Split-No Frit	3.4mm 5.0mm x 54mm	392611945	23329.1	23329.5	23329.25
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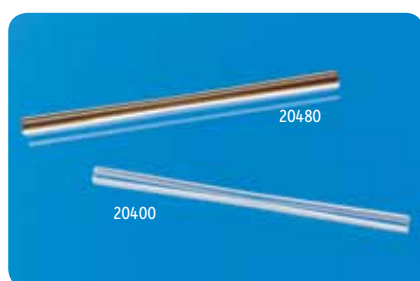
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COLUMN INSTALLS THIS END

# Get a Leak-Tight Seal Between Fused Silica Capillary Columns

## Use a Press-Tight® Connector

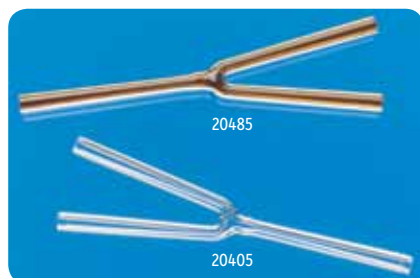
- Deactivated Press-Tight® connectors maintain complete inertness for the GC flow path.
- Siltek® treated connectors are ideal for organochlorine pesticides analysis.
- Fit column ODs from 0.33–0.74 mm (Restek 0.1 mm–0.53 mm ID).



### Universal Press-Tight® Connectors

- Connect a guard column to an analytical column.
- Repair a broken column.
- Connect a column outlet to a transfer line.

Description	5-pk.	25-pk.	100-pk.
Universal Press-Tight Connectors	20400	20401	20402
Universal Press-Tight Connectors, Deactivated	20429	20430	
Universal Press-Tight Connectors, Siltek Treated	20480	20449	



### Universal "Y" Press-Tight® Connectors

An alternative method of performing dual-column confirmational analyses!

- Split sample flow onto two columns.
- Split a single column flow to two detectors—perform confirmation analysis with a single injection.

Description	ea.	3-pk.
Universal "Y" Press-Tight Connector	20405	20406
Universal "Y" Press-Tight Connector, Deactivated	20405-261	20406-261
Universal "Y" Press-Tight Connector, Siltek Treated	20485	20486

Need a different type of connector? You'll find it at [www.restek.com](http://www.restek.com)



## Protect your data and analytical column!

### Restek Electronic Leak Detector

High temperature methods are extremely sensitive to carrier gas impurities, such as water and oxygen. Make sure you have clean carrier gas and frequently check connections and injection system fittings for leaks using a Restek electronic leak detector.

**Leak Detector with Hard-Sided Carrying Case and Universal Charger Set (US, UK, European, Australian)**  
Cat.# 22839

[www.restek.com/leakdetector](http://www.restek.com/leakdetector)

## Stock Your Lab With High-Quality, Easy-to-Use Supplies



24385

24383



21724

### 2.0 mL Crimp-Top Vials, 12 x 32 mm, 11 mm

Description	Volume	Color	Material	100-pk.	1000-pk.
Vial w/White Graduated Marking Spot	2.0mL	Clear	Glass	24383	24384
Vial w/White Graduated Marking Spot	2.0mL	Amber	Glass	24385	24386
Vial without Graduated Marking Spot	2.0mL	Clear	Glass	21152	21153

### 2.0 mL, 11 mm Aluminum Crimp Seals with Septa

Seal Color	Septa Material	100-pk.	500-pk.	1000-pk.
Silver	PTFE/Natural Rubber	21174	—	21175
Blue	PTFE/Red Rubber	24351	—	24352
Green	PTFE/Red Rubber	24353	—	24354
Red	PTFE/Red Rubber	24355	—	24356
Yellow	PTFE/Red Rubber	24357	—	24358
Mixed	PTFE/Rubber	—	21724	—
Silver	PTFE/Silicone	24359	—	24360
Blue	PTFE/Silicone	24361	—	24362
Green	PTFE/Silicone	24363	—	24364
Red	PTFE/Silicone	24365	—	24366
Yellow	PTFE/Silicone	24367	—	24368
Mixed	PTFE/Silicone	—	21725	—
Silver	PTFE/Silicone/PTFE	24369	—	24370



Crimper

**Safer than removing caps with pliers, knives, or screwdriver blades!**



Decapper

**NEW!**

### Easy Grip Manual Crimpers and Decappers

Our new Easy Grip Crimpers and Decappers feature tough, light glass-filled plastic bodies with curved handles, which improve hand comfort during use. The bottom-pull handle allows for a steadier hold than top-push handles. An easily viewed adjustment knob is located at the head of the product. The clearly shown + and - symbols, along with directional arrows, simplify adjusting the intensity of the crimp/decap needed. The knob is also designed to indicate when the crimp setting has been reached, when it fully contacts the body of the product.

Description	Size	qty.	cat.#
Crimper	11mm	ea.	23396
Decapper	11mm	ea.	23397
Crimper	20mm	ea.	23398
Decapper	20mm	ea.	23399



22433



22435

**NEW!**

### Interlock Vials

Interlock limited volume vials offer the performance and convenience of a one piece microvial for a fraction of the cost. A 300 µL insert is fused into a 12 x 32 mm clear or amber glass vial. This one piece design reduces the potential for contamination.

Description	Type	Volume	Color	Material	100-pk.	500-pk.
Interlock Vial	9mm Thread	300µL	Clear	Glass	22433	22434
Interlock Vial	9mm Thread	300µL	Amber	Glass	22435	22436
Interlock Vial	11mm Crimp or Snap Ring	300µL	Clear	Glass	22437	22438
Interlock Vial	11mm Crimp or Snap Ring	300µL	Amber	Glass	22439	22440

# Gas Generators from Restek

**Affordable, Reliable, and Safe**

Hydrogen, Zero Air,  
Nitrogen, and LC/MS Generators  
as well as FID Gas Stations!

Visit [www.restek.com/gas](http://www.restek.com/gas) for more information.



## Measure Your Savings!

Stock up on  
Hamilton syringes  
from Restek and  
save today!

Visit [www.restek.com/syringe](http://www.restek.com/syringe)



# Injectors, Filters, & Regulators

## Increase the Accuracy and Reproducibility of Manual Injections

- NIST traceability assures accurate injections.
- Fixed volume reduces sampling error.
- Saves time—no need to transfer to autosampler vials.
- Prevents bent syringe plungers.
- Fits Agilent-style (ball-end plunger) autosampler syringe with either fixed or removable, 23 or 26 gauge needle.
- Five injection volumes available.\*

### Merlin MicroShot™ Injector

Description	Merlin cat.#	qty.	cat.#
0.1µL injection volume	701-01	ea.	22226
0.2µL injection volume	701-02	ea.	22227
0.5µL injection volume	701-05	ea.	22228
1.0µL injection volume	701-10	ea.	22229
2.0µL injection volume	701-20	ea.	22230

\*Syringe not included. Requires Agilent-style (ball-end plunger) autosampler syringe.



Order yours at [www.restek.com/microshot](http://www.restek.com/microshot)

## Extend Instrument Lifetime With Super-Clean Gas Filters

- High-purity output ensures 99.9999% pure gas (at max. flow of 2 L/min.).
- "Quick connect" fittings for easy, leak-tight cartridge changes.

Description	qty.	cat.#
Carrier Gas Cleaning Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon Triple Gas Filter	kit	22019
Fuel Gas Purification Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and hydrocarbon/moisture Fuel Gas Filter	kit	22021
Helium-Specific Carrier Gas Cleaning Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon Helium-Specific Filter	kit	21983

Visit [www.restek.com/gas](http://www.restek.com/gas) for our complete filter offering.



## Protect Carrier Gas Purity and Control Outlet Pressure With UHP Regulators

### Dual-Stage, Chrome-Plated Brass

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	21667
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21668
CGA 590 (Air)	ea.	21669

### Single-Stage, Chrome-Plated Brass

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20646
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20647
CGA 590 (Air)	ea.	20648

### Dual-Stage, Stainless Steel

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20662
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20663
CGA 590 (Air)	ea.	20664

### Single-Stage, Stainless Steel

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20665
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20666
CGA 590 (Air)	ea.	20667



Inlet gauge: 0 to 4,000psig (0-27,579kPa)  
 Outlet assembly: diaphragm valve, 1/4" tube fitting  
 Outlet pressure: 0 to 100psig (0-689kPa)  
 Outlet gauge: 30" – 0 to 200psig (0-1379kPa)

Visit [www.restek.com/gas](http://www.restek.com/gas) for more information on gas regulators.

**Compare  
and SAVE!**

## Reversible Flip Seal Inlet Seals *Last Twice as Long* for the Same Price!



restek  
**innovation!**  
Patented

- Reversible design allows twice as many uses as other seals, at the same price.
- Vespel® ring embedded in top and bottom surface eliminates need for a washer.
- Highly inert gold and Siltek®-treated seals reduce breakdown and adsorption of active compounds, maximizing component transfer to GC column.
- Very little torque required to make seal—reduces operator variability.
- Lower leak rate compared to original equipment manufacturer's metal inlet seals.

0.8mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23407	23409
Siltek Treated	23408	23410
1.2mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23411	23413
Siltek Treated	23412	23414
Flip Seal Dual Vespel Ring Inlet Seal Kit	cat.#	
Includes: gold-plated 0.8mm ID inlet seal, reducing nut adaptor, 1/16" SS nut	23406	

Note: The Flip Seal requires a special reducing nut adaptor, which is included in the kit.



## Super Septa!

All Restek septa feature:

- Precision molding assures consistent, accurate fit.
- Preconditioned and ready to use.
- Do not adhere to hot metal surfaces.
- Packaged in precleaned glass jars.

**Restek IceBlue® Septa**—Usable to 250° C inlet temperature.

**BTO® Septa**—Usable to 400° C inlet temperature.

### Restek Thermolite® Septa

- Usable to 340 °C inlet temperature.
- Excellent puncturability.
- A Restek exclusive!



Septum Diameter	25-pk.	50-pk.	100-pk.
5mm (3/16")	27120	27121	27122
6mm (1/4")	27123	27124	27125
7mm	27126	27127	27128
8mm	27129	27130	27131
9mm	27132	27133	27134
9.5mm (3/8")	27135	27136	27137
10mm	27138	27139	27140
11mm (7/16")	27141	27142	27143
11.5mm	27144	27145	27146
12.7mm (1/2")	27147	27148	27149
17mm	27150	27151	27152
Shimadzu Plug	27153	27154	27155

Visit [www.restek.com/septa](http://www.restek.com/septa) for a complete listing of septa available.

## Make Life Easier in the Lab with an MLE Capillary Tool Kit

- Kits available for Agilent, Thermo Scientific, Shimadzu, PerkinElmer, and Varian GCs.
- Kits include everything you need to perform general maintenance on your GC.
- Parts list makes reordering easy!



Description	qty.	cat.#
MLE Capillary Tool Kit for Agilent GCs	kit	22186
MLE Capillary Tool Kit for PerkinElmer GCs	kit	22185
MLE Capillary Tool Kit for Shimadzu GCs	kit	22182
MLE Capillary Tool Kit for Thermo Scientific GCs	kit	22183
MLE Capillary Tool Kit for Varian GCs	kit	22184

Visit [www.restek.com/mletoolkit](http://www.restek.com/mletoolkit) for a complete listing of consumables included in MLE tool kits.



## Restek Offers a Complete Line of Ferrules for Convenient One-Stop-Shopping



### VespeL® Ferrules

- 100% high-temperature polyimide.
- Stable to 350 °C.
- Durable, leak-tight.

### Graphite Ferrules

- Preconditioned to eliminate out-gassing.
- High-purity, high-density graphite.
- Smoother surface and cleaner edges than conventional graphite ferrules.
- No binders to off-gas or adsorb analytes.
- Stable to 450 °C.

### VespeL®/Graphite Ferrules

- 60%/40% VespeL®/graphite blend, offering great sealing and ease of workability.
- Seal with minimal torque, reusable, and preferred for vacuum and high-pressure.
- Stable to 400 °C.
- Recommended for mass spec transfer lines.

Visit [www.restek.com](http://www.restek.com) for many more ferrule types and options!

### Capillary Ferrules for 1/16-Inch Compression-Type Fittings

Ferrule ID	Fits Column ID	qty.	VespeL	Graphite	VespeL/Graphite
0.3mm		10-pk.	22213	20233	20275
0.4mm	0.10/0.15/0.18/ 0.25/0.28mm	10-pk.	22214	20200	20211
0.4mm	0.10/0.15/0.18/ 0.25/0.28mm	50-pk.	—	20227	20229
0.5mm	0.32mm	10-pk.	22215	20201	20212
0.5mm	0.32mm	50-pk.	—	20228	20231
0.6mm	0.28mm**	10-pk.	—	—	20232
0.8mm	0.45/0.53mm	10-pk.	22216	20202	20213
0.8mm	0.45/0.53mm	50-pk.	—	20224	20230
1.0mm	0.75mm*	10-pk.	22217	21058	24912
1.2mm	0.75mm*	10-pk.	22218	—	—
1.6mm	1.00mm*	10-pk.	—	21060	—

### Compact Ferrules for Agilent 5890/6890/6850/7890 GCs

Ferrule ID	Fits Column ID	qty.	Graphite	VespeL/Graphite
0.4mm	0.25/0.28mm	10-pk.	20250	20238
0.4mm	0.25/0.28mm	50-pk.	20251	20239
0.5mm	0.32mm	10-pk.	21007	20248
0.5mm	0.32mm	50-pk.	21008	20249
0.8mm	0.45/0.53mm	10-pk.	20252	20263
0.8mm	0.45/0.53mm	50-pk.	20253	20264
1.0mm	0.75mm*	10-pk.	21059	—
1.6mm	1.00mm*	10-pk.	21061	—

\*For micropacked columns.

\*\*For 0.28 mm MXT columns.

## Swagelok® Consumables are Trusted Worldwide for Quality and Dependability






### Stainless Steel & Brass Fitting Kits

- Includes the most common assortment of 1/8" and 1/4" brass or stainless steel fittings.
- Parts list makes reordering easy.
- Parts come in sturdy tool box for easy and convenient storage.

**SAVE** by purchasing kits!

Description	qty.	cat.#
Swagelok Fitting Kit, Brass	kit	23141
Swagelok Fitting Kit, Stainless Steel	kit	23197

### Shut-Off Gas Valves

		
	</	

### Metering Gas Valves

Description	qty.	cat.#
1/8" Brass Metering Valve, straight	ea.	23148
1/4" Brass Metering Valve, straight	ea.	23149
1/8" Stainless Steel Metering Valve, straight	ea.	23204
1/4" Stainless Steel Metering Valve, straight	ea.	23205
Vernier Knob for Metering Valve	ea.	23206

23148

23206

### VCO® O-Ring Face Seal Fittings

- Unique design allows easy installation where space is limited.
- Assemblies can be used from high pressure to critical vacuum, across a wide range of temperatures.
- Smooth finish on gland face ensures positive seal.
- Sealing is accomplished with a captive O-ring in the body component.
- Ideal for pipe, tube, and welded systems.



#### Specifications:

Pressure Ratings	Up to 15,400 psig (1061 bar)
Temperature Ratings	Up to 400 °F (204 °C)



Description	Material	qty.	cat.#
1/4" VCO to 1/4" Tube Adaptor	Stainless Steel	2-pk.	23207
1/4" VCO to 1/4" Tube Adaptor	Siltek Treated	2-pk.	23209
1/4" VCO to 1/4" Tube Fitting	Stainless Steel	2-pk.	23210
1/4" VCO to 1/4" Tube Fitting	Siltek Treated	ea.	23211
1/4" VCO to 1/4" Tube Fitting	Stainless Steel	2-pk.	23215
1/4" VCO to 1/4" Tube Fitting	Siltek Treated	ea.	23216
1/4" VCO Nut	Stainless Steel	2-pk.	23212
1/4" VCO Nut Blind	Stainless Steel	2-pk.	23213
1/4" VCO Body Blind	Stainless Steel	2-pk.	23214
Replacement O-Ring, 70 Durometer Fluorocarbon FKM, VCO 1/4", Size 010		10-pk.	23208



**NEW!**

# ProFLOW 6000

## Electronic Flowmeter

### State-of-the-art features include:

- Measures volumetric flow for most gases across a range of 0.5-500 mL/min.
- NIST traceable calibration.
- Ex rating (electrical apparatus for explosive gas atmospheres) for hydrogen and related gas types.
- Accuracy of  $\pm 2\%$  of flow reading or  $\pm 0.2$  mL/min., whichever is greater.
- Data output via USB port.

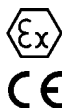
The new Restek ProFLOW 6000 is the only flowmeter you need for any type of chromatography gas measurement because of its wide range of capabilities. The ProFLOW 6000 is an electronic device capable of measuring volumetric flow for most gases. Real-time measurements can be made for various types of flow paths, including continually changing gas types. This portable unit is designed for easy hand-held use, and the stand adds bench-top convenience.

Description	qty.	cat.#
Restek ProFLOW 6000 Electronic Flowmeter with Hard-Sided Carrying Case	ea.	22656
ProFLOW 6000 Recalibration Service	ea.	22656-R

### Flowmeter Facts:

Type of flowmeter:	volumetric	Warranty:	one year
Battery:	2AA	Certifications:	CE, Ex
Operating Temp. Range:	32-120 °F (0-48 °C)	Compliance:	WEEE, RoHS

\*The flowmeter is designed to measure clean, dry, non-corrosive gases.



Go to [www.restek.com/flowmeter](http://www.restek.com/flowmeter) for a list of complete product features.

**Available for immediate delivery!**

*Patent pending*

### PATENTS & TRADEMARKS

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**RESTEK**

Lit. Cat.# GNFL1410-INT

2011.3

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# Get Maximum Accuracy at Minimum Flow

## With the **NEW** Restek **ProFLOW 6000** Electronic Flowmeter

See page 10 for more details.



**Come visit  
Restek**  
at these upcoming events:

### APRIL 2011

26 | **"Finally: A True Peak Capacity Increase for GCxGC of Petroleum Samples"** Webinar by Jack Cochran  
[www.restek.com/seminars](http://www.restek.com/seminars)

### MAY 2011

1-5 | **International Symposium on Capillary Chromatography (ISCC)** • San Diego, CA, USA

8-11 | **3rd Latin American Pesticide Residue Workshop — Food and Environment (LAPRW)**  
Montevideo, Uruguay

10-12 | **Minnesota Chromatography Forum (MCF)**  
Minneapolis, MN, USA

19 | **Triangle Chromatography Discussion Group (TCDG)**  
Research Triangle Park, NC, USA

25-27 | **expo Científica CTR 2011** • Monterrey, N.L., Mexico

Check out [www.restek.com/events](http://www.restek.com/events) for a full calendar!

## What's New!

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15% OFF ProFLOW 6000.....	10
15% OFF UHPLC Filters .....	12



# Simplify Your PAH Analysis with Restek Columns,

Unique selectivity for your environmental and food safety  
Polycyclic Aromatic Hydrocarbons (PAH) analysis.

## Rxi®-17Sil MS Columns

(midpolarity Crossbond® silarylene phase; similar to 50% phenyl/50% dimethyl polysiloxane)

- Separate PAHs that cannot be distinguished by mass spectrometry.
- Increase accuracy for PAHs of regulatory and health concern.
- Assure reliable trace level results with Rxi® technology.

NEW!



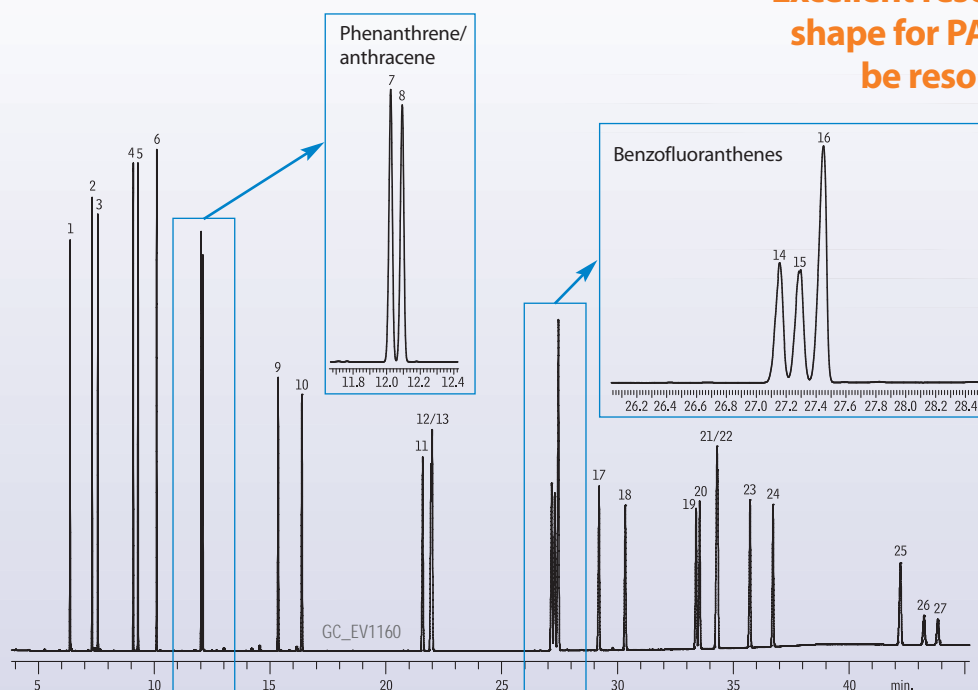
ID	df (μm)	temp. limits	length	qty.	cat. #
0.18mm	0.18μm	40 to 340/360°C	20m	ea.	14102
0.18mm	0.36μm	40 to 340/360°C	20m	ea.	14111
0.25mm	0.25μm	40 to 340/360°C	30m	ea.	14123
0.32mm	0.25μm	40 to 340/360°C	30m	ea.	14124

### similar phases

DB-17ms, VF-17ms, BPX-50, DB-EUPAH

### Polycyclic Aromatic Hydrocarbons on Rxi®-17Sil MS

Excellent resolution and peak shape for PAHs that cannot be resolved by MS



1. Naphthalene
2. 2-Methylnaphthalene
3. 1-Methylnaphthalene
4. Acenaphthylene
5. Acenaphthene
6. Fluorene
7. Phenanthrene
8. Anthracene
9. Fluoranthene
10. Pyrene
11. Benz(a)anthracene
12. Chrysene
13. Triphenylene
14. Benzo(b)fluoranthene
15. Benzo(k)fluoranthene
16. Benzo(j)fluoranthene
17. Benzo(a)pyrene
18. 3-Methylcholanthrene
19. Dibenz(a,h)acridine
20. Dibenz(a,i)acridine
21. Indeno(1,2,3-cd)pyrene
22. Dibenz(a,h)anthracene
23. Benzo(ghi)perylene
24. 7H-Dibenzo(c,g)carbazole
25. Dibenzo(a,e)pyrene
26. Dibenzo(a,i)pyrene
27. Dibenzo(a,h)pyrene

## Standards, and Sample Prep!



### Try Resprep® SPE Florisil Cartridges for Environmental PAH Sample Cleanup

**FREE**  
1L Sample Pack  
Add -248 when  
ordering.

Hydrophilic (polar) adsorbents used to extract hydrophilic analytes from nonpolar matrices, such as organic solvents (e.g., polar contaminants from sample extracts).

	3mL/500mg (50-pk.)	6mL/500mg (30-pk.)	6mL/1000mg (30-pk.)	6mL/1000mg (100-pk.)	15mL/2g (100-pk.)
Florisil (EPA SW 846 methods and CLP protocols)	24031	26086**	24034	26205	26228
	24032*	26086**	26085**		

\*Teflon® frits \*\*Glass tubes with Teflon® frits

For more information, visit [www.restek.com/florisil](http://www.restek.com/florisil)

### Flip Seal

Reversible inlet seals *last twice as long* for the same price!

- Reversible design lets you flip the inlet seal and use it twice as many times.
- Vespel® ring embedded in top and bottom surface eliminates need for a washer.
- Highly inert gold- and Siltek®-treated seals reduce breakdown and adsorption of active compounds, maximizing component transfer to GC column.
- Lower leak rate compared to original equipment manufacturer's metal inlet seals.



0.8mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23407	23409
Siltek Treated	23408	23410

Flip Seal Dual Vespel Ring Inlet Seal Kit	qty.	cat.#
Includes: gold-plated 0.8mm ID inlet seal, reducing nut adaptor, 1/16" SS nut	kit	23406

Note: The Flip Seal requires a special reducing nut, which is included in the kit.

For a complete product listing, visit [www.restek.com/flip](http://www.restek.com/flip)

### A Complete Offering of Standards to Support PAH Methods

PAH lists vary among methods and labs. Visit [www.restek.com](http://www.restek.com) for a complete list of stock products or to order a custom mix.



### Q-sep™ QuEChERS

Products Made  
Specifically for  
PAHs in Food  
Analysis!



restek innovation!

For more information  
on analyzing PAHs in  
seafood using  
QuEChERS, visit

[www.restek.com/quechers](http://www.restek.com/quechers)



# Introducing our expanded line of Sample Cylinders & Valves for Gas Sampling

- Both Sulfinert® treated & stainless steel for low-level sulfur analysis.
- DOT rated to 1,800 psi & 5,000 psi.
- Multiple valve configurations, including dip tube and rupture disks.
- Range of cylinder sizes 75 cc to 2,250 cc.
- TPED compliant for EU community.

**NEW!**



## Applications:

- ASTM D1265
- Hydrocarbon sampling in refineries & petrochemical plants

## Analyzing sulfur or mercury?

- Our unique Sulfinert® coating provides stable storage of sulfur and mercury at ppb levels
- Inert coating doesn't flake

Visit [www.restek.com/petro](http://www.restek.com/petro) to browse our complete line.



## Boost Capacity Using Standard GC Inlets 0.53 mm ID Micropacked Columns

**NEW!**

- Higher retention and capacity for gases and volatile compounds.
- Made from flexible Siltek®-treated stainless steel tubing for maximum inertness.
- Wide range of packings available.
- Can be coiled in small diameters to fit any GC.

	Mesh	ID	OD	Temp. Range	2-Meter
HayeSep Q	80/100	0.53mm	0.74mm	up to 275°C	19042
Molesieve 5A	80/100	0.53mm	0.74mm	up to 300°C	19041
Rt-XLSulfur	100/120	0.53mm	0.74mm	up to 300°C	19044
ShinCarbon ST	80/100	0.53mm	0.74mm	up to 330°C	19043

Made with  
**INERT**  
SilcoSmooth®  
tubing!

All Restek micropacked columns are made with inert SilcoSmooth® tubing, which is Siltek® treated for maximum inertness.



# Next Generation PLOT Columns

**Keep retention times stable and minimize GC downtime using stabilized PLOT columns**

Restek has developed new procedures to manufacture PLOT columns with concentric stabilized adsorption layers. The new generation PLOT columns show a constant flow behavior and have significantly improved mechanical stability, resulting in easier operation, more reproducible retention times, and reduced particle release.



## PLOT Columns

- Rt<sup>®</sup>-Q-BOND
- Rt<sup>®</sup>-QS-BOND
- Rt<sup>®</sup>-S-BOND
- Rt<sup>®</sup>-U-BOND
- Rt<sup>®</sup>-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub>
- Rt<sup>®</sup>-Alumina BOND/KCl
- Rt<sup>®</sup>-Msieve 5A
- MXT<sup>®</sup>-Q-BOND
- MXT<sup>®</sup>-S-BOND
- MXT<sup>®</sup>-Msieve 5A
- MXT<sup>®</sup>-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub>



**Get standards to support ASTM methods!**

D3606 • Oxygenates Setup • PIANO • SimDist • PONA VI



## Webinar

Sulfur in LNG: It's Gone Before You Know It

[www.restek.com/petro](http://www.restek.com/petro)



## tech tip

### Do you want to use valve injection or switching?

For this application, Restek bonded PLOT columns outperform any other PLOT column.

- **Best performance**
- **Best reproducibility**
- **Best price**

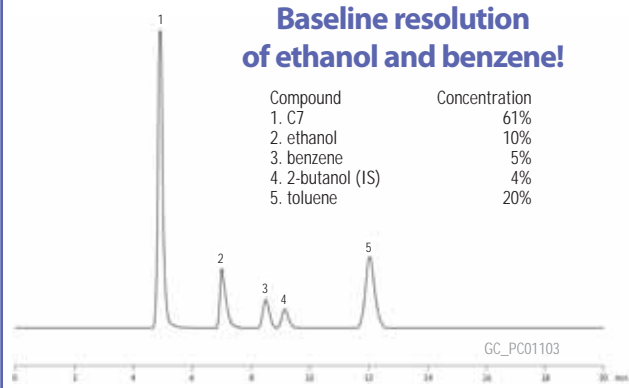


# D3606 Column Set

## Outperforms TCEP Column for Benzene Analysis

- Complete resolution of ethanol and benzene improves accuracy and allows tighter process control.
- Fully conditioned column set—ready to use out of the box.
- Each column set is tested for method applicability and includes chromatogram.

### Baseline resolution of ethanol and benzene!



For a complete list of conditions, visit [www.restek.com/petro](http://www.restek.com/petro)

### D3606 Application Column Set

(2 column set):

Column 1: 6' (1.8 m), 1/8" OD, 2.0 mm ID, nonpolar Rtx®-1

Column 2: 16' (4.9 m), 1/8" OD, 2.0 mm ID, proprietary packing material

Description	cat.#*
D3606 Application Column (2 column set)	83606-

### ASTM D3606 Calibration Standards

ASTM D3606 Calibration Kit with MEK Internal

Standard 30673 (kit)

ASTM D3606 Calibration Kit with sec-Butanol

Internal Standard 30674 (kit)

\*Please add column instrument configuration suffix number to cat.# when ordering.

See our catalog or website for more product details.

# ASTM Reference Standards

## Petroleum reference standards and mixes for ASTM methods

D2887-01 and D3710-95 (Simulated Distillation)

D3606-07 (Benzene & Toluene in Finished Motor & Aviation Gasoline)

D4059-96 (PCB Standards in Oil)

D6352-98 (Polywax® Standards)

D6584-00 (Biodiesel)

D6730-01 (Individual Components in Spark Ignition Engine Fuels)

Petroleum & Sulfur Standards

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ONLINE  
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documentation, chromatograms & more

Cutting-edge online tools at [www.restek.com](http://www.restek.com) let you search by:

- |                  |                   |                        |               |           |
|------------------|-------------------|------------------------|---------------|-----------|
| • Compound name. | • CAS number.     | • Restek or competitor | • Keyword.    | • Catalog |
| • Synonym.       | • Compound class. | column name.           | • Lot number. | number.   |



**NEW!**

## Low-Cost Gas Sampling Bags for Whole Air Sampling

### ALTEF Gas Sampling Bags

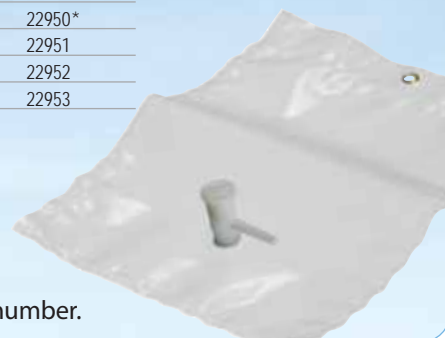
- Excellent low-cost alternative to Tedlar® bags for collection of most VOCs.
- Very low VOC and sulfur background compared to Tedlar® bags.
- Not recommended for ketones, acetates, hydrogen sulfide, or permanent gases.
- PVDF film is abrasion resistant and chemically inert to most acids and organic compounds.
- Contain no additives, fillers, or pigments.

Description	qty.	cat.#
0.5L	10-pk.	22958
1L	10-pk.	22959*
3L	10-pk.	22960
5L	10-pk.	22961
10L	10-pk.	22962
25L	5-pk.	22963

### Multi-Layer Foil Gas Sampling Bags

- Good stability for low molecular weight compounds, such as methane, CO, CO<sub>2</sub>, and permanent gases.
- Chemically inert with light and moisture protection.
- Not recommended for low ppm VOCs due to background levels.
- 5-layer protective barrier minimizes gas permeability.

Description	qty.	cat.#
1L	5-pk.	22950*
3L	5-pk.	22951
5L	5-pk.	22952
10L	5-pk.	22953



\*FREE sample 1L bag available by adding -247 to the catalog number.

## OVERSTOCK! Air Monitoring Supplies Sale



We goofed—which means you can save **BIG** on these overstock items. Hurry for immediate delivery of top quality air monitoring supplies from Restek!

Description	qty.	cat.#
Air Canister Heating Jacket (110 volt) Heats entire canister and valve 75°C or 150°C	ea.	24123
400cc Miniature Canister, Siltek Treated with Siltek Treated Quick-Connect Stem Fitting	ea.	24190
1,000cc Miniature Canister, Siltek Treated with Siltek Treated Quick-Connect Stem Fitting	ea.	24196

\*Special pricing while supplies last. No additional discounts apply. Domestic orders only.



## Save Money Using PUFs for Collection of Semivolatiles



**NEW!**

### Raw Polyurethane Foam (PUF) Plugs

- Unwashed PUF plugs for both low-volume and high-volume sampling.
- Certified to be flame retardant free—making them easier to clean for trace analysis.
- Compliant with EPA and ASTM methods—0.022 g/cm<sup>3</sup> density.

Description	Size	qty.	cat.#
Large PUF Plug, Unwashed	6cm OD x 7.6cm length	10pk.	22954
Large PUF Plug, Unwashed	6cm OD x 5.1cm length	10pk.	22955
Large PUF Plug, Unwashed	6cm OD x 2.5cm length	10pk.	22956
Small PUF Plug, Unwashed	22mm OD x 7.6cm length	10pk.	22957

Glass holders now available at [www.restek.com](http://www.restek.com)



**NEW!**

# True Blue Performance

Exceptionally inert, Sky™ inlet liners with **state-of-the-art deactivation** improve trace level analysis.

- Increase accuracy and precision
- Lower detection limits
- Use wool with confidence






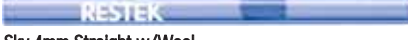











**Sky**™  
Inlet Liners



[www.restek.com/sky](http://www.restek.com/sky)

*Patent pending*

## Sky™ Inlet Liners for Agilent GCs

Splitless Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky 2mm Splitless	2.0mm 6.5mm x 78.5mm	5181-8818 (ea.) 5183-4703 (5-pk.) 5183-4704 (25-pk.)	23313.1	23313.5	23313.25
 Sky 2mm Splitless w/Wool	2.0mm 6.5mm x 78.5mm		23314.1	23314.5	23314.25
 Sky 2mm Single Taper/Gooseneck	2.0mm 6.5mm x 78.5mm		23315.1	23315.5	23315.25
 Sky 2mm Single Taper/Gooseneck w/Wool	2.0mm 6.5mm x 78.5mm		23316.1	23316.5	23316.25
 Sky 4mm Straight	4.0mm 6.3mm x 78.5mm	210-3003 (ea.) 210-3003-05 (5-pk.)	23301.1	23301.5	23301.25
 Sky 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23300.1	23300.5	23300.25
 Sky 4mm Single Taper/Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3316 (ea.) 5183-4695 (5-pk.) 5183-4696 (25-pk.)	23302.1	23302.5	23302.25
 Sky 4mm Single Taper/Gooseneck w/Wool	4.0mm 6.5mm x 78.5mm	5062-3587 (ea.) 5183-4693 (5-pk.) 5183-4694 (25-pk.)	23303.1	23303.5	23303.25
 Sky 4mm Double Taper/Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3315 (ea.) 5183-4705 (5-pk.) 5183-4706 (25-pk.)	23308.1	23308.5	23308.25
 Sky 4mm Cyclo Double Taper/Gooseneck	4.0mm 6.5mm x 78.5mm		23310.1	23310.5	23310.25
Split Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23304.1	23304.5	23304.25
 Sky 4mm Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm	210-4004-5 (5-pk.)	23305.1	23305.5	23305.25
 Sky 4mm Cyclosplitter	4.0mm 6.3mm x 78.5mm		23312.1	23312.5	23312.25
Split/Splitless Liners for Agilent GCs	ID OD x Length		ea.	cat.# 5-pk.	
 Sky Low Pressure Drop Liner w/Wool	4.0mm 6.3mm x 78.5mm		23309.1	23309.5	
Direct Injection Liners for Agilent GCs (for 0.25/0.32/0.53mm ID Columns)	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Sky Drilled Uniliner (hole near bottom)	4.0mm 6.3mm x 78.5mm	G1544-80730 (ea.)	23306.1	23306.5	
 Sky Drilled Uniliner (hole near bottom) w/Wool	4.0mm 6.3mm x 78.5mm		23307.1	23307.5	
 Sky Drilled Uniliner (hole near top)	4.0mm 6.3mm x 78.5mm		23311.1	23311.5	23311.25

Sky™ Inlet Liners are also available for PerkinElmer, Shimadzu, Thermo Scientific, and Varian GCs.

Visit [www.restek.com/sky](http://www.restek.com/sky) for a full product listing of Sky™ Inlet Liners.



## MEASUREMENT

**ProFLOW 6000** Electronic Flowmeter **NEW!****15% OFF!**  
for a limited time only\*\*

- Measures volumetric flow for gases across a range of 0.5–500 mL/min.
- Accuracy of  $\pm 2\%$  of flow or  $\pm 0.2$  mL/min., whichever is greater.
- NIST traceable calibration.

Description	qty.	cat.#
Restek ProFLOW 6000 Electronic Flowmeter with Hard-Sided Carrying Case	ea.	22656-409
ProFLOW 6000 Recalibration Service	ea.	22656-R

\*The flowmeter is designed to measure clean, dry, non-corrosive gases.  
\*\*Offer valid through April 30, 2011, or while supplies last. Discount cannot be combined with any other offers.

Go to [www.restek.com/flowmeter15](http://www.restek.com/flowmeter15) for complete product features.



## REGULATION

**Ultra-High Purity (UHP) Gas Regulators****Dual-Stage, Chrome-Plated**

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	21667
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21668
CGA 590 (Air)	ea.	21669

**Dual-Stage, Stainless Steel**

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20662
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20663
CGA 590 (Air)	ea.	20664

**Single-Stage, Chrome-Plated Brass**

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20646
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20647
CGA 590 (Air)	ea.	20648

**Single-Stage, Stainless Steel**

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20665
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20666
CGA 590 (Air)	ea.	20667



Inlet gauge: 0 to 4,000psig (0-27,579kPa)  
Outlet assembly: diaphragm valve, 1/4" tube fitting  
Outlet pressure: 0 to 100psig (0-689kPa)  
Outlet gauge: 30" – 0 to 200psig (0-1379kPa)

For more information on gas regulators, go to [www.restek.com/gas](http://www.restek.com/gas)

**Compare  
and SAVE!**

## PURIFICATION

**Super-Clean Gas Filter Kits  
and Replacements**

- High-purity output ensures 99.9999% pure gas (at max. flow of 2 L/min.).
- "Quick connect" fittings for easy, leak-tight cartridge changes.

Description	cat.#
Carrier Gas Cleaning Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon Triple Gas Filter	22019
Fuel Gas Purification Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and hydrocarbon/moisture Fuel Gas Filter	22021
Helium-Specific Carrier Gas Cleaning Kit Includes: mounting base plate, 1/8" inlet/outlet fittings, and oxygen/moisture/hydrocarbon Helium-Specific Filter	21983

Visit [www.restek.com/gas](http://www.restek.com/gas) for our complete filter offering.





## Clinical and Forensic Toxicology Solutions

Exceptional GC and HPLC columns • Innovative parts and accessories • Sample prep products  
Stock and custom analytical standards • Technical resources

### Assured Performance for Forensic Applications

#### Rxi®-5Sil MS Columns (fused silica)

(low polarity Crossbond® silarylene phase; selectivity similar to 5% phenyl/95% dimethyl polysiloxane)

- Exceptional column inertness means greater certainty and lower detection limits.
- Versatile selectivity improves lab productivity by eliminating the need to change columns between methods.
- Robust, low bleed phase results in better sensitivity and longer column lifetime.



For complete application information, download CFFL1302 from [www.restek.com](http://www.restek.com)

ID	df (µm)	temp. limits	length	qty.	cat. #
0.25mm	0.25µm	-60 to 330/350°C	30m	ea.	13623

Also available with Integra-Guard® column!

View the entire Rxi® line at [www.restek.com/rxi](http://www.restek.com/rxi)

### Improve Accuracy Using Derivatization Reagents

Derivatizing hard-to-chromatograph compounds, such as active or non-volatile drugs, improves analytical accuracy by increasing volatility, reducing activity, and shifting retention times. Achieve lower detection limits through improved response/peak shape and enhanced resolution!

- Available for acylation, alkylation, and silylation.
- Packaged in 10 x 1 g vials or 25 g vials.
- High purity for accurate results.

For a full product listing, search "derivatization reagents" at [www.restek.com](http://www.restek.com)!



### No DEA Clearance Needed!

For a wide range of standards across drug classes, visit [www.restek.com/cft](http://www.restek.com/cft)

### SPE CARTRIDGES for Extraction of Drugs in Biological Samples

These cartridges have been specifically designed to provide consistent and reproducible results for drug prep applications.

Description	Applications	Tube Volume, Bed Weight	qty.	cat.#
Drug Prep I	Suitable for acidic, basic, and neutral drugs. Mixed-mode hydrophobic and ion exchange sites provide selective, reproducible extraction of biological samples containing therapeutic or illegal drugs.	3mL, 200mg	50-pk.	26044
		10mL, 200mg	50-pk.	26045
Drug Prep II	Extraction of THCA from biological samples. Copolymeric anion exchange sites provide selective, reproducible extraction of THCA from urine.	3mL, 200mg	50-pk.	26046
		10mL, 200mg	50-pk.	26047





## RESTEK USLC™

### Ultra Selective Liquid Chromatography™

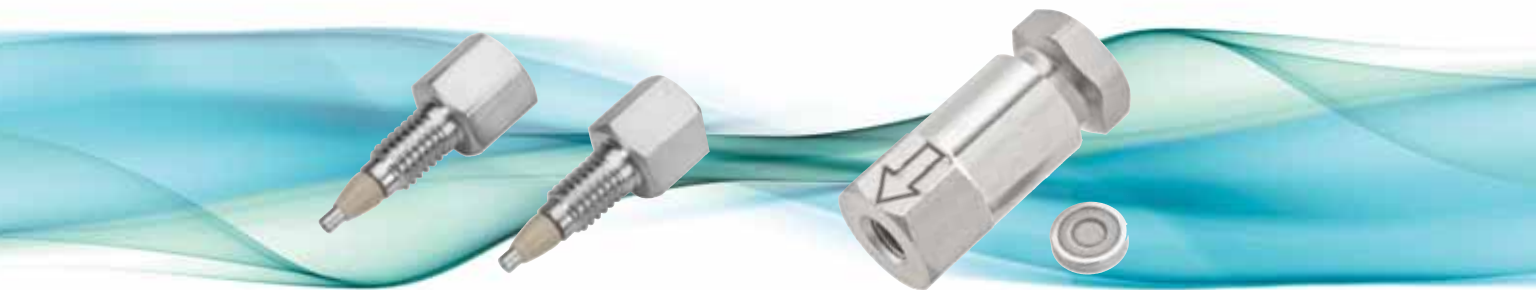
- **Widest range of reversed phase selectivity.**
- **Unique 4-column set for simplified selection.**
- **Efficient and effective method development.**
- **Fits any HPLC or UHPLC instrumentation.**

Improve your separations—learn how at  
[www.restek.com/USLC](http://www.restek.com/USLC)



## Protect your column and your UHPLC performance with UltraShield and UltraLine UHPLC Filters

A cost-effective way to extend the lifetime of any UHPLC column without sacrificing your UHPLC performance on any LC system.



### UltraShield UHPLC PreColumn Filter

Description	qty.	cat.#
UltraShield UHPLC PreColumn Filter	ea.	24995-712
UltraShield UHPLC PreColumn Filter	5-pk.	24996-712
UltraShield UHPLC PreColumn Filter	10-pk.	24997-712

### UltraLine UHPLC In-Line Filter

Description	qty.	cat.#
UltraLine UHPLC In-Line Filter		
UltraLine UHPLC In-Line Filter (In-Line Assembly with Filter)	ea.	24993-712
UltraLine Replacement Filters	5-pk.	24994-712

\*Offer valid on listed items through June 30, 2011, or while supplies last. Discount cannot be combined with any other offers. Distributor participation may vary.



# A Bright Idea for Cutting Costs!

## Save on Detector Lamps

Visit [www.restek.com/LCLamps](http://www.restek.com/LCLamps)

for a complete listing of lamps grouped by manufacturer:

- Agilent HPLC Systems
- Beckman HPLC Systems
- Hitachi HPLC Systems
- PerkinElmer Instruments
- Shimadzu HPLC Systems
- Waters Detectors



## Sidewinder LC Column Heater

- Easy to set up!
- Operation range: 5 °C above ambient to 85 °C,  $\pm 1$  °C.
- Lightweight, compact design fits in small spaces.
- Column holder can be placed in any orientation.
- Achieve optimum performance and efficiency when used in conjunction with a mobile phase pre-heater.

Description	Length	qty.	cat.#
Temperature Control Module and Column Holder	Long (25cm)	ea.	26516
Temperature Control Module and Column Holder	Short (10cm)	ea.	26517



## Sidewinder LC Column Heater/Cooler

- Operation range: 5-55 °C,  $\pm 0.2$  °C.
- Ability to program multiple temperature points.
- Accommodates columns up to 30 cm in length and 7.8 mm ID.
- Compact design.
- Achieve optimum performance and efficiency when used in conjunction with a mobile phase pre-heater.

Description	qty.	cat.#
Sidewinder Heater/Cooler Temperature Control Module and Column Holder	ea.	26518

## Don't Forget the Mobile Phase Pre-Heater



- Heats mobile phase before it enters a heated column.
- Minimizes temperature changes to help keep analyte peaks sharp.

Description	qty.	cat.#
15 $\mu$ L Mobile Phase Pre-heater, 0.010" ID	ea.	22484



# Q-sep™

NEW!

## QuEChERS Products

**Quick, Easy, Cheap, Effective, Rugged and Safe!**

### Complete Product Offering to Support QuEChERS Methods

- Comprehensive portfolio of QuEChERS tubes.
- Method-specific internal and QC standards.
- Rxi®-5Sil MS capillary column.
- Ultra Aqueous C18 LC column.



## Go Green!

Switch to **Reusable Teflon®**  
**QuEChERS Centrifuge**  
**Tubes** and Stop  
Trashing Your Tubes

**Sturdy, easy-to-clean tubes**  
**last indefinitely under**  
**normal usage conditions.**



**Try them and get a FREE**  
**50-pack of salts!**

Choose from AOAC 2007.01, European EN 15662, or  
Original Unbuffered Methods. **Offer ends June 30, 2011.**

Go to [www.restek.com/gogreen](http://www.restek.com/gogreen)  
for ordering and offer details.

## Accurately and Precisely Dispense Liquids in Your Lab

- Set output volume from 2.5 mL to 30 mL per stroke (0.5 mL increments).
- Base features 30 mm threads and includes four adaptors.
- Safety discharge helps prevent accidental dispensing.
- Easy to disassemble for cleaning and servicing.
- Individually calibrated per ISO 8655 (certificate included) and can be recalibrated by user.
- Excellent chemical compatibility and 100% autoclavability.



Description	qty.	cat. #
Q-sep Bottle Top Solvent Dispenser, 2.5 mL - 30 mL	ea.	23990



## Glass Labware

### High-Quality Glassware at an Inviting Price

- Kuderna-Danish Evaporator, Snyder Columns and Concentrator Tubes
- Soxhlet Extraction Apparatus
- Erlenmeyer and Class A Volumetric Flasks
- Auto-Zero and Squeeze-O-Matic Burets
- Separatory Funnels
- Repeating Pipettes
- Impingers

Buy today at [www.restek.com/glassware](http://www.restek.com/glassware)



Save time with prepacked sample prep cartridges!

## EPH Fractionation Tubes

- Superior fractionation of extractable petroleum hydrocarbons.
- Easier quantification; lower background & less interference.
- Reliable, accurate, and reproducible results.
- Unique packaging designed for convenience and storage stability.

### Get More Accuracy

See our MA EPH Application!  
Search for Advantage  
580135 (p. 14–15) at  
[www.restek.com](http://www.restek.com)

Description	Tube Volume, Bed Weight	qty.	cat.#
EPH Fractionation Tubes	20mL, 5g	20-pk.	26065



# Restek Learning Network

## 2011 Chromatography Seminars

### NOW OFFERING!

- GC/MS Training Seminar
- LC/MS Training Seminar
- Petrochemical Seminar
- Comprehensive GC Seminar
- Comprehensive HPLC Seminar
- LC Method Development Seminar
- Clinical Toxicology Seminar **NEW!**

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**Register  
TODAY!**



### ON-SITE SEMINARS

**We'll come to you!**

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and to arrange for Restek to come to your facility  
to teach one of these courses!

**RESTEK**

Lit. Cat.# GNES1325

2011.2

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ISO 9001:2008  
cert. # FM80397

# Sky™

Inlet Liners

**RESTEK**

## True Blue Performance

**NEW!**

Exceptionally inert, Sky™ inlet liners with **state-of-the-art deactivation** improve trace level analysis.



**Introducing Restek's  
most inert liners:  
The Sky™ Inlet Liners.**

*Inspiring Great Chromatography*

*Patent Pending*

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**NEW!**

# True Blue Performance

Exceptionally inert, Sky™ inlet liners with **state-of-the-art deactivation** improve trace level analysis.

- Increase accuracy and precision
- Lower detection limits
- Use wool with confidence

**Sky**™  
Inlet Liners



**[www.restek.com/sky](http://www.restek.com/sky)**

innovative chromatography products


















2

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**ECH**nology Pty Ltd  
AUSTRALIAN Distributors [www.chromtech.net.au](http://www.chromtech.net.au)

**10**

## Sky™ Inlet Liners for Agilent GCs

Patent Pending

Splitless Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 2mm Splitless	2.0mm 6.5mm x 78.5mm	5181-8818 (ea.) 5183-4703 (5-pk.) 5183-4704 (25-pk.)	23313.1	23313.5	23313.25
 2mm Splitless w/Wool	2.0mm 6.5mm x 78.5mm		23314.1	23314.5	23314.25
 2mm Single Taper Gooseneck	2.0mm 6.5mm x 78.5mm		23315.1	23315.5	23315.25
 2mm Single Taper Gooseneck w/Wool	2.0mm 6.5mm x 78.5mm		23316.1	23316.5	23316.25
 4mm Straight	4.0mm 6.3mm x 78.5mm	210-3003 (ea.) 210-3003-05 (5-pk.)	23301.1	23301.5	23301.25
 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23300.1	23300.5	23300.25
 4mm Single Taper Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3316 (ea.) 5183-4695 (5-pk.) 5183-4696 (25-pk.)	23302.1	23302.5	23302.25
 4mm Single Taper Gooseneck w/Wool	4.0mm 6.5mm x 78.5mm	5062-3587 (ea.) 5183-4693 (5-pk.) 5183-4694 (25-pk.)	23303.1	23303.5	23303.25
 4mm Double Taper Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3315 (ea.) 5183-4705 (5-pk.) 5183-4706 (25-pk.)	23308.1	23308.5	23308.25
 4mm Cyclo Double Taper Gooseneck	4.0mm 6.5mm x 78.5mm		23310.1	23310.5	23310.25
Split Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23304.1	23304.5	23304.25
 4mm Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm	210-4004-5 (5-pk.)	23305.1	23305.5	23305.25
 4mm Cyclosplitter	4.0mm 6.3mm x 78.5mm		23312.1	23312.5	23312.25
Split/Splitless Liners for Agilent GCs	ID OD x Length		ea.	cat.# 5-pk.	
 Low Pressure Drop Liner w/Wool	4.0mm 6.3mm x 78.5mm		23309.1	23309.5	
Direct Injection Liners for Agilent GCs (for 0.25/0.32/0.53mm ID Columns)	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Drilled Uniliner (hole near bottom)	4.0mm 6.3mm x 78.5mm	G1544-80730 (ea.)	23306.1	23306.5	
 Drilled Uniliner (hole near bottom) w/Wool	4.0mm 6.3mm x 78.5mm		23307.1	23307.5	
 Drilled Uniliner (hole near top)	4.0mm 6.3mm x 78.5mm		23311.1	23311.5	23311.25

Sky™ Inlet Liners are also available for PerkinElmer, Shimadzu, Thermo Scientific and Varian GCs.

visit [www.restek.com/sky](http://www.restek.com/sky) for a full product listing of Sky™ Inlet Liners



# Essentials for determining

## Q-sep™

NEW!

## QuEChERS Products

**Quick, Easy, Cheap, Effective, Rugged and Safe!**

### Tubes & Standards

**for multi-residue pesticide analysis  
from food and other matrices**

## Complete Product Offering

**to support AOAC (2007.01) & European  
(EN15662) QuEChERS Methods**

- Comprehensive portfolio of QuEChERS tubes
- Method-specific internal and QC standards
- Rxi®-5Sil MS capillary column
- Ultra Aqueous C18 LC column

[www.restek.com/quechers](http://www.restek.com/quechers)



**Introducing NEW  
Q-sep™ Extraction  
Salt Packets!**

## Introducing NEW Q-sep™ 3000 Centrifuge for QuEChERS



Priced to fit your laboratory's budget, the Q-sep™ 3000 Centrifuge is the first centrifuge specifically designed for QuEChERS methodology. This compact, quiet, yet powerful, unit spins at the 3,000g force required by the European method.

For product listing, visit  
[www.restek.com/quechers](http://www.restek.com/quechers)

### QuEChERS Internal Standard Mix

for GC/ECD Analysis  
cat. # 33265 (ea.)

for GC/MS Analysis  
cat. # 33267 (ea.)

for LC/MS/MS Analysis  
cat. # 33261 (ea.)

for GC/NPD and LC/MS/MS Analysis  
cat. # 33266 (ea.)



### QuEChERS Single-Component Reference Standards

Compound Packaged 1mL/ampul	Solvent Code	µg/mL	cat.#
PCB 18 (5mL)	ACN	50	33255
PCB 28 (5mL)	ACN	50	33256
PCB 52 (5mL)	ACN	50	33257
PCB 138 (5mL)	ACN	50	33262
PCB 153 (5mL)	ACN	50	33263
triphenylmethane (5mL)	ACN	10	33260
triphenylphosphate (5mL)	ACN	20	33258
tris(1,3-dichloroisopropyl)phosphate (5mL)	ACN	50	33259

ACN = acetonitrile

### QuEChERS Quality Control Standards for GC/MS Analysis

5mL/ampul	
50µg/mL each in acetonitrile	cat. # 33268 (ea.)
100µg/mL in acetonitrile	cat. # 33264 (ea.)

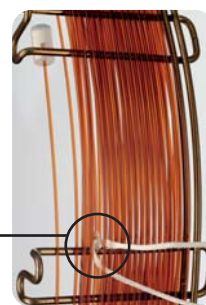
## Rxi<sup>®</sup>-5SiI MS provides the inertness and low bleed **for lower detection limits** in your pesticides residue analysis!

### Rxi<sup>®</sup>-5SiI MS Columns (fused silica)

(low polarity Crossbond<sup>®</sup> silarylene phase; selectivity close to 5% phenyl/95% dimethyl arylene polysiloxane)

- Engineered to be a low bleed GC/MS column.
- Excellent inertness for active compounds.
- General purpose columns—ideal for GC/MS analysis of polycyclic aromatic compounds, chlorinated hydrocarbons, phthalates, phenols, amines, organochlorine pesticides, organophosphorus pesticides, drugs, solvent impurities, and hydrocarbons.

ID	df (μm)	temp. limits	length	qty.	cat. #	price
0.25mm	0.25μm	-60 to 330/350°C	30m	ea.	13623	
0.25mm	0.50μm	-60 to 330/350°C				
w/5m Integra-Guard Column			30m	ea.	13638-124	
0.25mm	0.50μm	-60 to 330/350°C				
w/10m Integra-Guard Column			30m	ea.	13638-127	

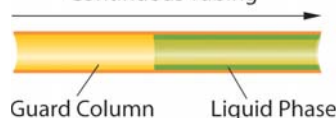


### Integra-Guard<sup>®</sup> Retention Gaps:

Get the protection without the connection!

- Extend column lifetime.
- Eliminate leaks with a built-in retention gap.
- Inertness verified by isothermal testing.

Integra-Guard<sup>®</sup> built-in guard column  
Continuous Tubing



Integra-Guard<sup>®</sup> columns are available for columns with 0.25, 0.32 or 0.53mm ID. If you don't see what you need here, contact us.

## NEW! Flip Seal

Reversible Inlet Seals *last twice as long* for the same price!



restek innovation!  
Patented

- Reversible design allows twice as many uses as other seals, at the same price.
- Vespel<sup>®</sup> ring embedded in top and bottom surface eliminates need for a washer.
- Highly inert gold and Siltek<sup>®</sup>-treated seals reduce breakdown and adsorption of active compounds, maximizing component transfer to GC column.
- Very little torque required to make seal—reduces operator variability.
- Lower leak rate compared to original equipment manufacturer's metal inlet seals.

0.8mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23407	23409
Siltek Treated	23408	23410
1.2mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23411	23413
Siltek Treated	23412	23414
Flip Seal Dual Vespel Ring Inlet Seal Kit	qty.	cat.#
Includes: gold-plated 0.8mm ID inlet seal, reducing nut adaptor, 1/16" SS nut	kit	23406

Note that the Flip Seal requires a special reducing nut adaptor, which is included in the kit.



Tired of throwing away all those tubes?

# Go Green!

## Reusable Teflon® QuEChERS Centrifuge Tubes

Sturdy, easy-to-clean tubes last indefinitely under normal usage conditions.

**NEW!**



Try them and get a **FREE 50-pack of salts!**

Choose either AOAC 2007.01 or European EN 15662 Method.  
Order using catalog number from table below. **Offer ends June 30, 2011.**

Description	Material	qty.	cat#
<b>Q-Sep Teflon Tube Promo Kit for European EN 15662 Method</b>			
Empty 50mL Centrifuge Tube, Teflon FEP		2-pk.	23997-408A
Q110 Packets	4g MgSO <sub>4</sub> , 1g NaCl, 1g TSCD, 0.5g DHS	50 packets	
<b>Q-Sep Teflon Tube Promo Kit for AOAC 2007.01</b>			
Empty 50mL Centrifuge Tube, Teflon FEP		2-pk.	23997-408B
Q150 Packets	6g MgSO <sub>4</sub> , 1.5g NaOAc	50 packets	

Discount cannot be combined with any other offers. Distributor participation may vary.

Go to [www.restek.com/gogreen](http://www.restek.com/gogreen)

## Q-sep™ QuEChERS

**Complete Product Offering  
to support AOAC (2007.01) & European  
(EN15662) QuEChERS Methods**

Comprehensive  
portfolio of  
QuEChERS tubes.

Method-specific  
internal and QC  
standards.



**NEW!**

## QuEChERS Racks



### Q-sep™ Tube Racks

- Available for 2 mL, 15 mL, and 50 mL tubes.
- Alphanumeric grid reference on top tier for easy identification of samples.
- Easy to assemble, simply fold and snap together securely.

Q-sep™ Tube Rack for:	Holds:	Material	qty.	cat.#
2mL Centrifuge Tubes	100	Polypropylene, White	ea.	23995
15mL Centrifuge Tubes	60	Polypropylene, White	ea.	23993
50mL Centrifuge Tubes	24	Polypropylene, White	ea.	23994



# Glass Labware

## High-Quality Glassware at an Inviting Price

- Kuderna-Danish Evaporator, Snyder Columns and Concentrator Tubes
- Soxhlet Extraction Apparatus
- Erlenmeyer and Class A Volumetric Flasks
- Auto-Zero and Squeeze-O-Matic Burets
- Separatory Funnels
- Repeating Pipettes
- Impingers

Buy today at [www.restek.com/glassware](http://www.restek.com/glassware)



## Cut costs, not corners!



### Syringe Filters with Luer lock Inlet

Top quality filters at lower costs than even the discounted prices of other manufacturers! Compare our quality with your current brand using our **FREE no risk sample packs**. Call your local dealer today!

**PTFE Purple Luer Lock Inlet 13mm, 0.22µm, 100-pk.**

- Variety of filter types, porosities, and diameters.
- Color coded for easy identification.
- Polypropylene housing.
- Reusable storage container.
- Quantity break pricing, for greater savings.

Visit [www.restek.com/filters](http://www.restek.com/filters) for complete product listing.



# Essentials for Dioxin analysis

## Select Restek Dioxin GC Columns

### Proven Reliability for Primary and Confirmation Analyses

- Isomer specificity for 2,3,7,8-TCDD and 2,3,7,8-TCDF.
- Unique selectivity provides accurate identification of toxic dioxin and furan congeners.
- High thermal stability combined with low bleed provides maximum sensitivity.

Ensure an inert sample pathway with Sky™ Inlet Liners!  
See page 2 for details!

#### Primary Column

##### Rxi®-5Sil MS Columns (fused silica)

(low polarity Crossbond® silarylene phase; selectivity close to 5% phenyl/95% dimethyl arylene polysiloxane)

**Stable to 350°C!**

ID	df	temp. limits	30-Meter	60-Meter
0.25mm	0.25µm	-60 to 330/350°C	13623	
0.18mm	0.10µm	-60 to 320/350°C		43607

#### Confirmation Column

##### Rtx®-Dioxin2

(proprietary Crossbond® phase)

**Stable to 340°C!**

ID	df	temp. limits	40-Meter	60-Meter
0.18mm	0.18µm	20°C to 340°C	10759	
0.25mm	0.25µm	20°C to 340°C		10758

## Inventory available for immediate delivery!



### Ultra-Clean Resin

#### XAD-2 Equivalent

- For adsorbing semivolatiles in air.
- Cleaned, GC tested and certified.
- Available in 100 gram quantities.

Although resin is an excellent adsorbent for trapping PAHs, it requires extensive clean-up because many of its impurities are PAH compounds. To enable you to eliminate time-consuming clean-up, we do the cleaning for you! We test each batch by capillary GC/flame ionization detector to ensure cleanliness.

Method:	Applications
EPA TO-13A:	PAHs in Ambient Air
ASTM D6209:	PAHs in Ambient Air
EPA Method 23:	Dioxins in Stationary Source Emissions
EPA Method 0010:	Semivolatiles in Stationary Source Emissions

Description	cat.#
Ultra-Clean Resin, 100 grams	24230



### SDVB Resin

#### XAD-2 Equivalent

- Styrene/divinylbenzene, equivalent to XAD-2 resin.
- Untreated, packaged in 1 kg plastic containers.
- Spherical, 20 to 60 mesh particles.

Description	qty.	cat.#
SDVB Resin	1kg	24053

(Larger quantities available upon request.)



Restek has supplies for all your air sampling needs!  
Visit [www.restek.com/air](http://www.restek.com/air)

# New Cage

## Same trusted PLOT column technology now available in metal MXT<sup>®</sup> tubing!

For your convenience, MXT stainless steel PLOT columns are now available in both a 3½ inch diameter coil and our new 7 inch diameter cage. Whether you're using them in a process GC or a bench top GC, our columns will fit your needs!

### More flexibility for your MXT<sup>®</sup> PLOT column needs!

#### **NEW!** MXT<sup>®</sup>-Q-BOND Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	15-Meter	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.25mm	8µm	to 300/320°C	79718		
0.53mm	20µm	to 300/320°C		79716-273	79716

#### MXT<sup>®</sup>-S-BOND Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.53mm	20µm	to 250°C	79712-273	79712

#### **NEW!** MXT<sup>®</sup>-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub> Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.53mm	10µm	to 200°C	79714-273	79714

#### **NEW!** MXT<sup>®</sup>-Msieve 5A Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	15-Meter	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.25mm	20µm	to 300°C	79717		
0.53mm	50µm	to 300°C		79723-273	79723



### tech tip

#### Do you want to use valve injection or switching?

For this application, Restek bonded PLOT columns outperform any other PLOT column.

- Best performance
- Best reproducibility
- Best price



# RESTEK REFINED

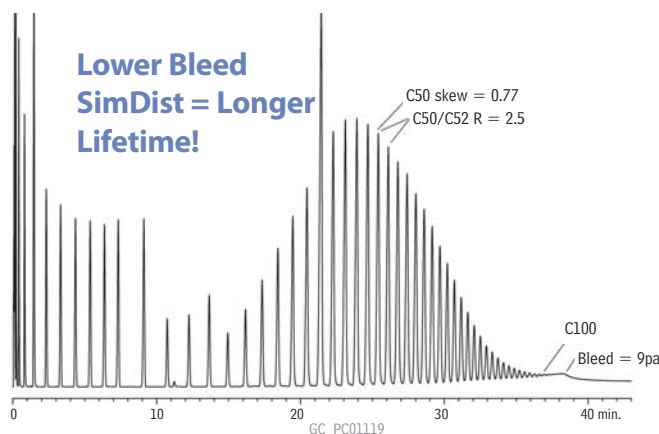
Get more runs out of  
your SimDist setup, using

## Restek MXT®-1HT SimDist columns

- Stable up to 430°C—lowest bleed column, for longer lifetime.
- Meets all ASTM D6352 and D7500 specifications.
- 100% dimethyl polysiloxane phase allows easy comparisons to historical data.
- Unbreakable columns offer security when using hydrogen.

Superior resolution and peak shape on MXT®-1HT SimDist columns result in more accurate final boiling point determinations.

**Lower Bleed  
SimDist = Longer  
Lifetime!**



Column: MXT®-1HT Sim Dist, 5m, 0.53mm ID,  
0.20µm (cat.# 70115)  
Sample: C5-C100, 1% in carbon disulfide  
Inj.: 1µL on-column (PTV)  
Inj. temp.: 53°C to 430°C @ 10°C/min. (hold 5 min.)

Carrier gas: helium, constant flow  
Flow rate: 18mL/min.  
Oven temp.: 50°C to 430°C @  
10°C/min. (hold 5 min.)  
Det.: FID @ 430°C  
Instrument: Shimadzu 2010

RESTEK  REFINED  
New Solutions for Your Petro Analyses

Introductory Offer on our expanded line of

**Cylinders & Valves  
for Gas Sampling**

**Buy 5 Valves,  
Get the 6th FREE!**

Offer ends 3/31/11



### MXT®-1HT SimDist Column (Siltek® treated stainless steel)

ID	df (µm)	temp. limits	length	qty.	cat. #
0.53mm	0.10µm	-60 to 430/450°C	5m	ea.	70112
0.53mm	0.20µm	-60 to 430/450°C	5m	ea.	70115

For additional column dimensions, visit [www.restek.com](http://www.restek.com)

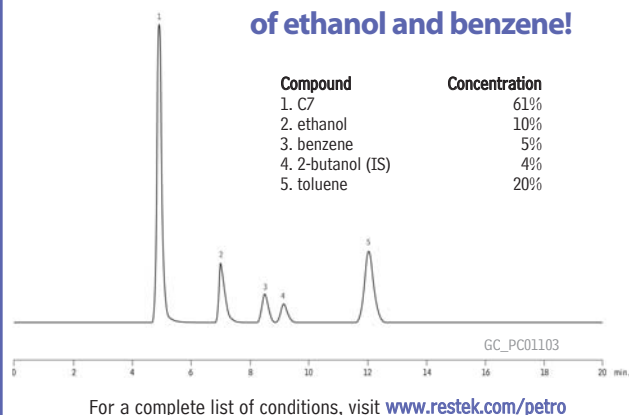
**NEW!**

# D3606 Column Set

## Outperforms TCEP Column for Benzene Analysis

- Complete resolution of ethanol and benzene improves accuracy and allows tighter process control.
- Fully conditioned column set—ready to use out of the box.
- Each column set is tested for method applicability and includes chromatogram.

### Baseline resolution of ethanol and benzene!



For a complete list of conditions, visit [www.restek.com/petro](http://www.restek.com/petro)

### D3606 Application Column Set

(2 column set)\*\*:

Column 1: 6' (1.8m), 1/8" OD, 2.0mm ID, nonpolar Rtx-1

Column 2: 16' (4.9m), 1/8" OD, 2.0mm ID, proprietary packing material

Description	cat. #**
D3606 Application Column (2 column set)**	83606-
ASTM D3606 Calibration Kit with MEK Internal Standard	30673 (kit)

ASTM D3606 Calibration Kit with sec-Butanol Internal Standard 30674 (kit)

\*Please add column configuration suffix number from our catalog to cat. # when ordering—see our catalog or website.

\*\*The column set is designed to accommodate both valve injection and/or syringe injection. Column 1 is configured with a 2" inlet void to facilitate on-column injection. The inlet is identified on both column 1 and column 2. Note: The inlet of column 2 is identified for proper orientation for connection to the valve.

## DHA analysis: Trouble with tailing alcohol peaks is over...

# Rtx®-DHA

- Sharp alcohol peaks: accurate data
- Each column tested to ASTM D6730 specifications
- Guaranteed Performance: Temperature ranges up to 300°C for elution of higher hydrocarbons.

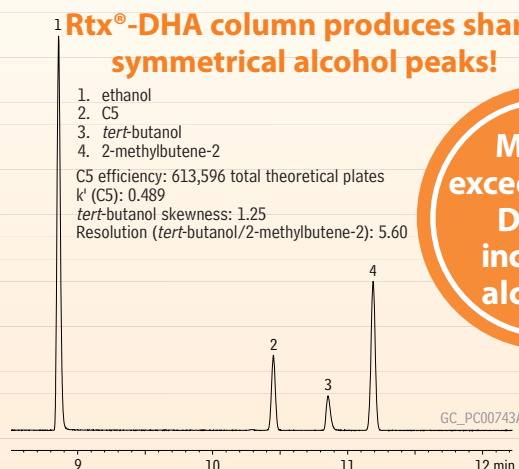
### Rtx®-DHA Columns (fused silica)

(Crossbond® 100% dimethyl polysiloxane—optimized for hydrocarbon analysis)

ID	df	temp. limits	length	qty.	cat. #
0.20mm	0.50µm	-60 to 300/340°C	50m	ea.	10147
0.25mm	0.50µm	-60 to 300/340°C	100m	ea.	10148
0.25mm	1.00µm	-60 to 300/340°C	150m	ea.	10149

Visit [www.restek.com/petro](http://www.restek.com/petro) for complete offering of DHA Standards.

### Rtx®-DHA column produces sharp symmetrical alcohol peaks!



Column: Rtx®-DHA, 100m, 0.25mm ID, 0.5µm (cat. # 10148) plus Rtx®-5DHA tuning column, 2.62m, 0.25mm ID, 1.0µm, connected via Press-Tight® connector (cat. # 20446) Sample: custom detailed hydrocarbons analysis (DHA) mix, neat For full analytical conditions, visit [restek.com](http://restek.com) and search for GC\_PC00743A

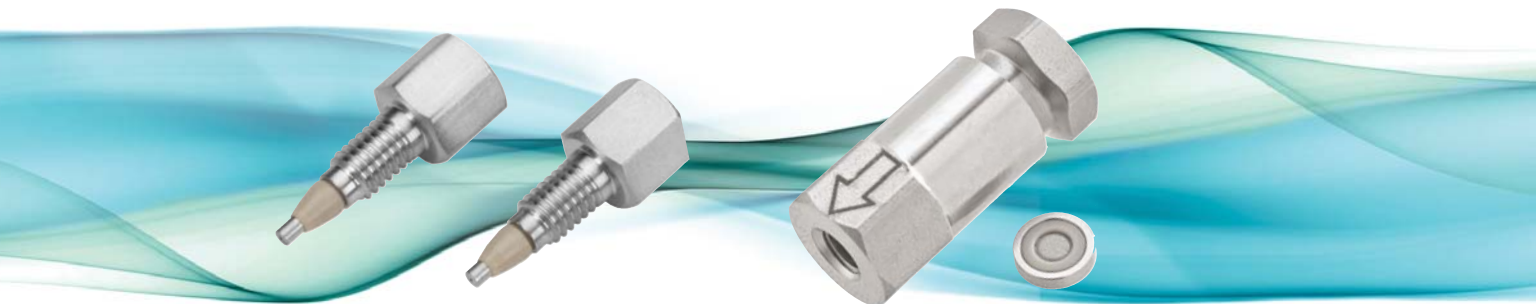
Meet & exceed ASTM D6730, including alcohols!



# Protect your column and your UHPLC performance with UltraShield and UltraLine UHPLC Filters

NEW!

A cost-effective way to extend the lifetime of any UHPLC column without sacrificing your UHPLC performance on any LC system



## UltraShield UHPLC PreColumn Filter

UltraShield UHPLC PreColumn Filter	5-pk.	24996-712
UltraShield UHPLC PreColumn Filter	10-pk.	24997-712

## UltraLine UHPLC In-Line Filter

Description	qty.	cat.#
UltraLine UHPLC In-Line Filter (In-Line Assembly with Filter)	ea.	24993-712
UltraLine Replacement Filters	5-pk.	24994-712

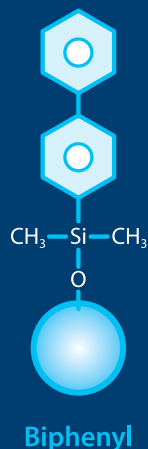
Offer valid on listed items through June 30, 2011, or while supplies last. Discount cannot be combined with any other offers. Distributor participation may vary.

# Biphenyl

## Leading Resolution in LC

- Resolve a wider range of compound chemistries compared to a C18 or phenyl column.
- Easy separations with methanolic mobile phases—no acetonitrile needed.
- Perfect for aromatics including drugs of abuse, pharmaceuticals, metabolites and more.
- Enhanced and alternate selectivity—ideal for method development and column switching.

Go to: [www.restek.com/biphenyl](http://www.restek.com/biphenyl) for more information





## The SUPPLIES you NEED

### Piston Seals

for Agilent 1050, 1100, and 1200 Instruments

Piston seals wear out over time and Restek is your best option for economical replacements. Choose our graphite-filled Teflon® seals, which are best for organic solvents.



Piston Seals, Teflon w/Graphite, Black

qty.	Agilent part #	Restek cat. #
2-pk.	5063-6589	22482
10-pk.	NA	22483

### Universal 10-32 PEEK™ Column Connectors and Plugs

Universal PEEK™ Connectors allow easy installation of all 1/16-inch tubing, including stainless steel.

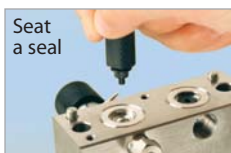


Description	qty.	cat. #
PEEK Column Connector (beige, round body)	10-pk.	25015
PEEK Column Plug (black)	10-pk.	25016
PEEK Fingertight Fittings (blue, flat-sided)	10-pk.	25324

## The INNOVATION you WANT

### HPLC Piston Seal Insertion Tool

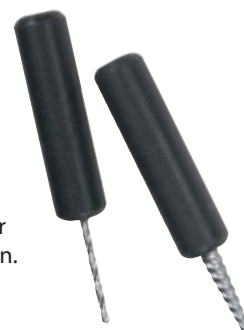
Simplify pump maintenance: use one end to remove your old seal, then simply slip your new seal on the other end and push it flush into position. The tool cannot mar the surrounding metal surface of the pump housing.



Description	qty.	cat. #
HPLC Piston Seal Insertion Tool	ea.	21356

### PEEK™ Fitting Extractor

Drill into the broken fitting, then screw the extractor into the fitting and remove it easily. Eliminates the need for heat or other techniques that could damage your column.



Easily remove a broken PEEK fitting.

Description	qty.	cat. #
PEEK Fitting Extractor	ea.	25325

## The SAVINGS you ENJOY

### Survival Kit for HPLC, Stainless Steel

For start-up and maintenance in all HPLC systems.

The stainless steel survival kit contains a wide range of tubing, fittings, and tools necessary to set up and maintain your HPLC system: a selection of lengths and IDs of 1/16-inch tubing, plus nuts, ferrules, a ValvTool wrench, and a zero-dead-volume union.



Description	qty.	cat. #
Survival Kit for HPLC, Stainless Steel	kit	25097

### Survival Kit for HPLC, PEEK™

For start-up and maintenance in all HPLC systems.

The PEEK™ Survival Kit is an invaluable parts kit that contains tubing, fittings, and tools essential for setting up and maintaining your HPLC system: PEEK™ tubing, connectors, and elbows, Teflon® tubing, a tubing cutter and extra blades, a ValvTool wrench, open-end wrenches, and more.



Description	qty.	cat. #
Survival Kit for HPLC, PEEK	kit	25322

Visit [www.restek.com](http://www.restek.com) for a complete list of kit contents.



# Canister Passive Sampling Kits

## For Whole Air Sampling Without a Pump

### Grab Sampling Kits

**NEW!**

- Use with 1, 3, or 6 L canisters, for qualitative grab air sampling.
- Variety of orifice sizes, for fast sampling from 5 to 60 minutes.
- 1/4" compression fitting connects directly to canister valve inlet.
- Replaceable frit protects orifice and valve from particulates.
- Sample inlet design minimizes water entry into sampling train.
- Individual replacement components available.



Passive Air Sampling Kits—Grab					Siltek Treated Grab Sampling Kits	
Canister Volume/Sampling Time	Flow (mL/min.)	Orifice Size			cat.#	
1 L Canister	3 L Canister	6 L Canister				
60	—	—	15	0.0018"	26280	
30	—	—	20	0.0020"	26281	
15	60	—	45	0.0030"	26282	
—	30	60	80	0.0040"	26283	
5	15	30	150	0.0055"	26284	
—	—	15	300	0.0080"	26285	
—	5	—	390	0.0090"	26286	
—	—	5	>1,000	0.0130"	26287	

Also available in stainless steel. Air sampling canisters sold separately.

### Integrated Sampling Kits

- Provide accurate integrated sampling without a sampling pump.
- Siltek® treated components ensure accurate sampling of active components.
- Excellent for sampling times from 0.5 hour to 125 hours.



#### Passive Air Sampling Kits—Integrated

Canister Volume/Sampling Time					Flow	Orifice size	Siltek Treated Sampling Kits
400cc	1 Liter	3 Liter	6 Liter	15 Liter	(mL/min.)		
8 hour	24 hour	48 hour	125 hour	—	0.5–2	0.0008"	24217
2 hour	4 hour	12 hour	24 hour	60 hour	2–4	0.0012"	24160
1 hour	2 hour	6 hour	12 hour	30 hour	4–8	0.0016"	24161
—	1 hour	4 hour	8 hour	20 hour	8–15	0.0020"	24162
—	—	2 hour	3 hour	8 hour	15–30	0.0030"	24163
—	—	—	1.5 hour	4 hour	30–80	0.0060"	24164
—	—	—	0.5 hour	1 hour	80–340	0.0090"	22101

Also available in stainless steel. Air sampling canisters sold separately.

### Dual Canister Sampling Manifold

Stainless Steel & Sulfinert® Treated



**NEW!**

- Duplicate sampling with all size canisters using 1 or 2 flow controllers.
- Precise dimensions (9.5" wide x 3.5" high) provide accurate splitting of sample between two canisters.
- One-piece design means fewer leaks.
- Thick walled stainless steel tubing is rugged enough for field use.
- 1/4" compression connections.

Note: Do not use the DCSM as a handle to pick up 2 canisters!

Description	Stainless Steel cat.#	Sulfinert Treated cat.#
Dual Canister Sampling Manifold	24998	24999

### Soil Gas Sampler

Stainless Steel & Sulfinert® Treated

**NEW!**

This unique grab sampler is specifically designed for soil gas sampling by allowing the connection of tubing coming from the soil gas sample port. The innovative design minimizes connections and leaks and houses a critical orifice in the tee fitting. It also incorporates a vacuum gauge and 2 µm frit filter.

#### Assembled sampler includes:

- Stainless steel tee with orifice.
- 11/2" vacuum gauge (-30" Hg to 0" Hg).
- 2 µm frit filter for insertion into 1/4" compression sample inlet.
- 1/4" port connector to canister valve.



Sampling Time for 6 L Canister			Siltek Treated Soil Gas Sampler Kit		Stainless Steel Soil Gas Sampler Kit
Flow	Orifice Size	cat.#			cat.#
20 min.	210 mL/min.	0.0065"	22935		22930
30 min.	150 mL/min.	0.0055"	22936		22931
1 hr.	80 mL/min.	0.0040"	22937		22932
4 hr.	19 mL/min.	0.0020"	22938		22933
10 hr.	6 mL/min.	0.0014"	22939		22934

Air sampling canisters sold separately.



## Complete Offering to Support EPH Methods

Wide selection to support many state methods.

### MA EPH Aromatic Hydrocarbon Standard

1,000 $\mu$ g/mL each in methylene chloride, 1mL/ampul

cat. # 31458

### MA EPH Surrogate Spike Mix

4,000 $\mu$ g/mL each in acetone, 1mL/ampul

cat. # 31479

### MA EPH Matrix Spike Mix

250 $\mu$ g/mL each in acetone, 1mL/ampul

cat. # 31460

### MA EPH Aliphatic Hydrocarbon Standard

1,000 $\mu$ g/mL each in hexane, 1mL/ampul

cat. # 31459

### MA Fractionation Check Mix

25 $\mu$ g/mL each in hexane, 1mL/ampul

cat. # 31481

### 5- $\alpha$ -androstane

2,000 $\mu$ g/mL in methylene chloride, 1mL/ampul

cat. # 31065

### Naphthalene-d8

2,000 $\mu$ g/mL in methylene chloride, 1mL/ampul

cat. # 31043

### MA Fractionation Surrogate Spike Mix

4,000 $\mu$ g/mL each in hexane, 1mL/ampul

cat. # 31480

### 1-Chlorooctadecane

10,000 $\mu$ g/mL in methylene chloride, 1mL/ampul

cat. # 31098

For a complete list of EPH standards visit  
[www.restek.com/eph](http://www.restek.com/eph)

# MegaMix®

Time-Saving MegaMix® Environmental Reference Mixes.

- Largest number of target analytes in one mix, formulated for maximum stability.
- Available for US EPA methods 8260, 8270, 502.2, 524.2, 525.2, 624, 625, SOM01.1, OLC 03.2, OLM 04.2, Skinner List volatiles, Skinner List semivolatiles.

Save time, save effort, minimize potential for preparation problems—use MegaMix® reference mixes, only from Restek or authorized distributors.

Go to [www.restek.com/megamix](http://www.restek.com/megamix)

Free Datapacks  
available online!

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AUSTRALIAN Distributors [www.chromtech.net.au](http://www.chromtech.net.au)

10

15



# ProFLOW 6000

## Electronic Flowmeter

### State-of-the-art features include:

- Measures volumetric flow for most gases across a range of 0.5-500 mL/min.
- NIST traceable calibration.
- Ex rating (electrical apparatus for explosive gas atmospheres) for hydrogen and related gas types.
- Accuracy of  $\pm 2\%$  of flow or  $\pm 0.2$  mL/min., whichever is greater.
- Data output via USB port.

The new Restek ProFLOW 6000 is the only flowmeter you need for any type of chromatography gas measurement because of its wide range of capabilities. The ProFLOW 6000 is an electronic device capable of measuring volumetric flow for most gases. Real-time measurements can be made for various types of flow paths, including continually changing gas types. This portable unit is designed for easy hand-held use, and the stand adds bench-top convenience.

Description	qty.	cat.#
Restek ProFLOW 6000 Electronic Flowmeter with Hard-Sided Carrying Case	ea.	22656-409

### Flowmeter Facts:

Type of flowmeter:	volumetric	Warranty:	one year
Battery:	2AA	Certifications:	CE, Ex
Operating Temp. Range:	32-120°F (0-48°C)	Compliance:	WEEE, RoHS

- \*The flowmeter is designed to measure clean, dry, non-corrosive gases.  
 \*\*Offer valid through April 30, 2011, or while supplies last. Discount cannot be combined with any other offers.

Go to [www.restek.com/flowmeter](http://www.restek.com/flowmeter) for a list of complete product features.

Patent Pending

**RESTEK**

ISO 9001:2008  
cert.# FM80397

Lit. Cat.# GNES1324-INT  
2011 v.1

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AUSTRALIAN Distributors **ECH**nology Pty Ltd  
[www.chromtech.net.au](http://www.chromtech.net.au)

**10**

# Sky™ Inlet Liners

## True Blue Performance

NEW!

Exceptionally inert, Sky™ inlet liners with **state-of-the-art deactivation** improve trace level analysis.



Introducing Restek's  
most inert liners:  
The Sky™ Inlet Liners.

*Inspiring Great Chromatography*

*Patent Pending*

## What's New!

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QuEChERS Reusable Teflon Tubes .....	6
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D3606 Column Set .....	11
Passive Sampling Kits.....	14

## Great Savings!

Free 50-pack of salts .....	6
Buy 5 Valves, Get 1 FREE .....	10
New UHPLC Filters.....	12
New ProFLOW 6000 .....	16



**NEW!**

# True Blue Performance

Exceptionally inert, Sky™ inlet liners with **state-of-the-art deactivation** improve trace level analysis.

- Increase accuracy and precision
- Lower detection limits
- Use wool with confidence


















**Sky**<sup>TM</sup>  
Inlet Liners



[www.restek.com/sky](http://www.restek.com/sky)

## Sky™ Inlet Liners for Agilent GCs

Patent Pending

Splitless Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 2mm Splitless	2.0mm 6.5mm x 78.5mm	5181-8818 (ea.) 5183-4703 (5-pk.) 5183-4704 (25-pk.)	23313.1	23313.5	23313.25
 2mm Splitless w/Wool	2.0mm 6.5mm x 78.5mm		23314.1	23314.5	23314.25
 2mm Single Taper Gooseneck	2.0mm 6.5mm x 78.5mm		23315.1	23315.5	23315.25
 2mm Single Taper Gooseneck w/Wool	2.0mm 6.5mm x 78.5mm		23316.1	23316.5	23316.25
 4mm Straight	4.0mm 6.3mm x 78.5mm	210-3003 (ea.) 210-3003-05 (5-pk.)	23301.1	23301.5	23301.25
 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23300.1	23300.5	23300.25
 4mm Single Taper Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3316 (ea.) 5183-4695 (5-pk.) 5183-4696 (25-pk.)	23302.1	23302.5	23302.25
 4mm Single Taper Gooseneck w/Wool	4.0mm 6.5mm x 78.5mm	5062-3587 (ea.) 5183-4693 (5-pk.) 5183-4694 (25-pk.)	23303.1	23303.5	23303.25
 4mm Double Taper Gooseneck	4.0mm 6.5mm x 78.5mm	5181-3315 (ea.) 5183-4705 (5-pk.) 5183-4706 (25-pk.)	23308.1	23308.5	23308.25
 4mm Cyclo Double Taper Gooseneck	4.0mm 6.5mm x 78.5mm		23310.1	23310.5	23310.25
Split Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 4mm Straight w/Wool	4.0mm 6.3mm x 78.5mm	19251-60540 (ea.) 5183-4691 (5-pk.) 5183-4692 (25-pk.)	23304.1	23304.5	23304.25
 4mm Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm	210-4004-5 (5-pk.)	23305.1	23305.5	23305.25
 4mm Cyclosplitter	4.0mm 6.3mm x 78.5mm		23312.1	23312.5	23312.25
Split/Splitless Liners for Agilent GCs	ID OD x Length		ea.	cat.# 5-pk.	
 Low Pressure Drop Liner w/Wool	4.0mm 6.3mm x 78.5mm		23309.1	23309.5	
Direct Injection Liners for Agilent GCs (for 0.25/0.32/0.53mm ID Columns)	ID OD x Length	Similar to Agilent part #	ea.	cat.# 5-pk.	25-pk.
 Drilled Uniliner (hole near bottom)	4.0mm 6.3mm x 78.5mm	G1544-80730 (ea.)	23306.1	23306.5	
 Drilled Uniliner (hole near bottom) w/Wool	4.0mm 6.3mm x 78.5mm		23307.1	23307.5	
 Drilled Uniliner (hole near top)	4.0mm 6.3mm x 78.5mm		23311.1	23311.5	23311.25

Sky™ Inlet Liners are also available for PerkinElmer, Shimadzu, Thermo Scientific and Varian GCs.

visit [www.restek.com/sky](http://www.restek.com/sky) for a full product listing of Sky™ Inlet Liners



# Essentials for determining

## Q-sep™

NEW!

## QuEChERS Products

**Quick, Easy, Cheap, Effective, Rugged and Safe!**

### Tubes & Standards

**for multi-residue pesticide analysis  
from food and other matrices**

## Complete Product Offering

**to support AOAC (2007.01) & European  
(EN15662) QuEChERS Methods**

- Comprehensive portfolio of QuEChERS tubes
- Method-specific internal and QC standards
- Rxi®-5Sil MS capillary column
- Ultra Aqueous C18 LC column

[www.restek.com/quechers](http://www.restek.com/quechers)



**Introducing NEW  
Q-sep™ Extraction  
Salt Packets!**

## Introducing NEW Q-sep™ 3000 Centrifuge for QuEChERS



Priced to fit your laboratory's budget, the Q-sep™ 3000 Centrifuge is the first centrifuge specifically designed for QuEChERS methodology. This compact, quiet, yet powerful, unit spins at the 3,000g force required by the European method.

For product listing, visit  
[www.restek.com/quechers](http://www.restek.com/quechers)

### QuEChERS Internal Standard Mix

for GC/ECD Analysis  
cat. # 33265 (ea.)

for GC/MS Analysis  
cat. # 33267 (ea.)

for LC/MS/MS Analysis  
cat. # 33261 (ea.)

for GC/NPD and LC/MS/MS Analysis  
cat. # 33266 (ea.)



### QuEChERS Single-Component Reference Standards

Compound Packaged 1mL/ampul	Solvent Code	µg/mL	cat.#
PCB 18 (5mL)	ACN	50	33255
PCB 28 (5mL)	ACN	50	33256
PCB 52 (5mL)	ACN	50	33257
PCB 138 (5mL)	ACN	50	33262
PCB 153 (5mL)	ACN	50	33263
triphenylmethane (5mL)	ACN	10	33260
triphenylphosphate (5mL)	ACN	20	33258
tris(1,3-dichloroisopropyl)phosphate (5mL)	ACN	50	33259

ACN = acetonitrile

### QuEChERS Quality Control Standards for GC/MS Analysis

5mL/ampul	
50µg/mL each in acetonitrile	cat. # 33268 (ea.)
100µg/mL in acetonitrile	cat. # 33264 (ea.)

## Rxi<sup>®</sup>-5SiI MS provides the inertness and low bleed **for lower detection limits** in your pesticides residue analysis!

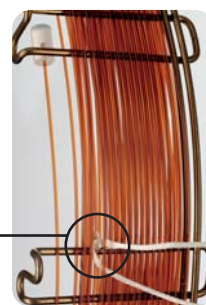
### Rxi<sup>®</sup>-5SiI MS Columns

(fused silica)

(low polarity Crossbond<sup>®</sup> silarylene phase; selectivity close to 5% phenyl/95% dimethyl arylene polysiloxane)

- Engineered to be a low bleed GC/MS column.
- Excellent inertness for active compounds.
- General purpose columns—ideal for GC/MS analysis of polycyclic aromatic compounds, chlorinated hydrocarbons, phthalates, phenols, amines, organochlorine pesticides, organophosphorus pesticides, drugs, solvent impurities, and hydrocarbons.

ID	df (μm)	temp. limits	length	qty.	cat. #	price
0.25mm	0.25μm	-60 to 330/350°C	30m	ea.	13623	
0.25mm	0.50μm	-60 to 330/350°C				
w/5m Integra-Guard Column			30m	ea.	13638-124	
0.25mm	0.50μm	-60 to 330/350°C				
w/10m Integra-Guard Column			30m	ea.	13638-127	

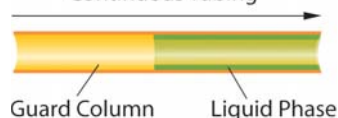


### Integra-Guard<sup>®</sup> Retention Gaps:

Get the protection without the connection!

- Extend column lifetime.
- Eliminate leaks with a built-in retention gap.
- Inertness verified by isothermal testing.

Integra-Guard<sup>®</sup> built-in guard column Continuous Tubing



Integra-Guard<sup>®</sup> columns are available for columns with 0.25, 0.32 or 0.53mm ID. If you don't see what you need here, contact us.

## NEW! Flip Seal

Reversible Inlet Seals *last twice as long* for the same price!



restek innovation!  
Patented

- Reversible design allows twice as many uses as other seals, at the same price.
- Vespel<sup>®</sup> ring embedded in top and bottom surface eliminates need for a washer.
- Highly inert gold and Siltek<sup>®</sup>-treated seals reduce breakdown and adsorption of active compounds, maximizing component transfer to GC column.
- Very little torque required to make seal—reduces operator variability.
- Lower leak rate compared to original equipment manufacturer's metal inlet seals.

0.8mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23407	23409
Siltek Treated	23408	23410
1.2mm ID Flip Seal Dual Vespel Ring Inlet Seal	2-pk.	10-pk.
Gold-Plated	23411	23413
Siltek Treated	23412	23414
Flip Seal Dual Vespel Ring Inlet Seal Kit	qty.	cat.#
Includes: gold-plated 0.8mm ID inlet seal, reducing nut adaptor, 1/16" SS nut	kit	23406

Note that the Flip Seal requires a special reducing nut adaptor, which is included in the kit.



Tired of throwing away all those tubes?

# Go Green!

## Reusable Teflon® QuEChERS Centrifuge Tubes

Sturdy, easy-to-clean tubes last indefinitely under normal usage conditions.

NEW!

Try them and get a FREE 50-pack of salts!

Choose either AOAC 2007.01 or European EN 15662 Method.  
Order using catalog number from table below. **Offer ends June 30, 2011.**

Description	Material	qty.	cat#
<b>Q-Sep Teflon Tube Promo Kit for European EN 15662 Method</b>			
Empty 50mL Centrifuge Tube, Teflon FEP		2-pk.	23997-408A
Q110 Packets	4g MgSO <sub>4</sub> , 1g NaCl, 1g TSCD, 0.5g DHS	50 packets	
<b>Q-Sep Teflon Tube Promo Kit for AOAC 2007.01</b>			
Empty 50mL Centrifuge Tube, Teflon FEP		2-pk.	23997-408B
Q150 Packets	6g MgSO <sub>4</sub> , 1.5g NaOAc	50 packets	

Discount cannot be combined with any other offers. Distributor participation may vary.

Go to [www.restek.com/gogreen](http://www.restek.com/gogreen)



## Q-sep™ QuEChERS

**Complete Product Offering  
to support AOAC (2007.01) & European  
(EN15662) QuEChERS Methods**

Comprehensive  
portfolio of  
QuEChERS tubes.

Method-specific  
internal and QC  
standards.



NEW!

## QuEChERS Racks



### Q-sep™ Tube Racks

- Available for 2 mL, 15 mL, and 50 mL tubes.
- Alphanumeric grid reference on top tier for easy identification of samples.
- Easy to assemble, simply fold and snap together securely.

Q-sep™ Tube Rack for:	Holds:	Material	qty.	cat.#
2mL Centrifuge Tubes	100	Polypropylene, White	ea.	23995
15mL Centrifuge Tubes	60	Polypropylene, White	ea.	23993
50mL Centrifuge Tubes	24	Polypropylene, White	ea.	23994



## Glass Labware

### High-Quality Glassware at an Inviting Price

- Kuderna-Danish Evaporator, Snyder Columns and Concentrator Tubes
- Soxhlet Extraction Apparatus
- Erlenmeyer and Class A Volumetric Flasks
- Auto-Zero and Squeeze-O-Matic Burets
- Separatory Funnels
- Repeating Pipettes
- Impingers

Buy today at [www.restek.com/glassware](http://www.restek.com/glassware)



## Cut costs, not corners!



100-pack

- Variety of filter types, porosities, and diameters.
- Color coded for easy identification.
- Polypropylene housing.
- Reusable storage container.
- Quantity break pricing, for greater savings.

### Syringe Filters with Luer lock Inlet

Top quality filters at lower costs than even the discounted prices of other manufacturers! Compare our quality with your current brand using our **FREE no risk sample packs**. Call your local dealer today!

**PTFE Purple Luer Lock Inlet 13mm, 0.22µm, 100-pk.**

cat# 26142

Visit [www.restek.com/filters](http://www.restek.com/filters) for complete product listing.



# Essentials for Dioxin analysis

## Select Restek Dioxin GC Columns

### Proven Reliability for Primary and Confirmation Analyses

- Isomer specificity for 2,3,7,8-TCDD and 2,3,7,8-TCDF.
- Unique selectivity provides accurate identification of toxic dioxin and furan congeners.
- High thermal stability combined with low bleed provides maximum sensitivity.

Ensure an inert sample pathway with Sky™ Inlet Liners!  
See page 2 for details!

#### Primary Column

##### Rxi®-5Sil MS Columns (fused silica)

(low polarity Crossbond® silarylene phase; selectivity close to 5% phenyl/95% dimethyl arylene polysiloxane)

**Stable to 350°C!**

ID	df	temp. limits	30-Meter	60-Meter
0.25mm	0.25µm	-60 to 330/350°C	13623	
0.18mm	0.10µm	-60 to 320/350°C		43607

#### Confirmation Column

##### Rtx®-Dioxin2

(proprietary Crossbond® phase)

**Stable to 340°C!**

ID	df	temp. limits	40-Meter	60-Meter
0.18mm	0.18µm	20°C to 340°C	10759	
0.25mm	0.25µm	20°C to 340°C		10758

## Inventory available for immediate delivery!



### Ultra-Clean Resin

#### XAD-2 Equivalent

- For adsorbing semivolatiles in air.
- Cleaned, GC tested and certified.
- Available in 100 gram quantities.

Although resin is an excellent adsorbent for trapping PAHs, it requires extensive clean-up because many of its impurities are PAH compounds. To enable you to eliminate time-consuming clean-up, we do the cleaning for you! We test each batch by capillary GC/flame ionization detector to ensure cleanliness.

#### Method:

Method:	Applications
EPA TO-13A:	PAHs in Ambient Air
ASTM D6209:	PAHs in Ambient Air
EPA Method 23:	Dioxins in Stationary Source Emissions
EPA Method 0010:	Semivolatiles in Stationary Source Emissions

#### Description

#### cat.#

Ultra-Clean Resin, 100 grams	24230
------------------------------	-------



### SDVB Resin

#### XAD-2 Equivalent

- Styrene/divinylbenzene, equivalent to XAD-2 resin.
- Untreated, packaged in 1 kg plastic containers.
- Spherical, 20 to 60 mesh particles.

#### Description

SDVB Resin

#### qty.

1kg

#### cat.#

24053

(Larger quantities available upon request.)



Restek has supplies for all your air sampling needs!  
**Visit [www.restek.com/air](http://www.restek.com/air)**

# New Cage

## Same trusted PLOT column technology now available in metal MXT<sup>®</sup> tubing!

For your convenience, MXT stainless steel PLOT columns are now available in both a 3½ inch diameter coil and our new 7 inch diameter cage. Whether you're using them in a process GC or a bench top GC, our columns will fit your needs!

### More flexibility for your MXT<sup>®</sup> PLOT column needs!

#### **NEW!** MXT<sup>®</sup>-Q-BOND Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	15-Meter	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.25mm	8µm	to 300/320°C	79718		
0.53mm	20µm	to 300/320°C		79716-273	79716

#### MXT<sup>®</sup>-S-BOND Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.53mm	20µm	to 250°C	79712-273	79712

#### **NEW!** MXT<sup>®</sup>-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub> Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.53mm	10µm	to 200°C	79714-273	79714

#### **NEW!** MXT<sup>®</sup>-Msieve 5A Columns (Siltek<sup>®</sup>-treated stainless steel PLOT)

ID	df	temp. limits	15-Meter	3.5" coil 30-Meter	7" diameter 11-pin cage 30-Meter
0.25mm	20µm	to 300°C	79717		
0.53mm	50µm	to 300°C		79723-273	79723



### tech tip

#### Do you want to use valve injection or switching?

For this application, Restek bonded PLOT columns outperform any other PLOT column.

- Best performance
- Best reproducibility
- Best price



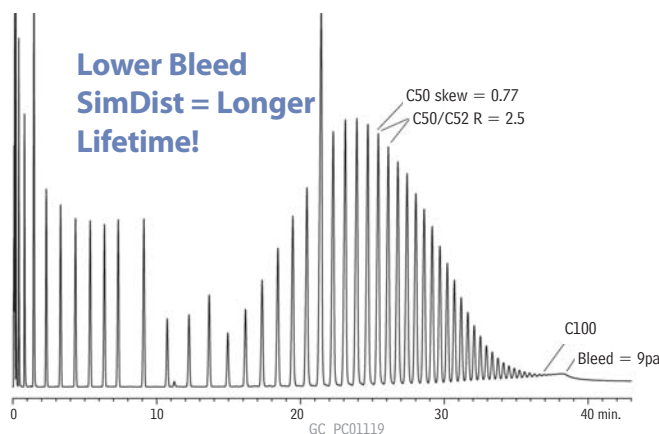
RESTEK  REFINED

Get more runs out of  
your SimDist setup, using

# Restek MXT®-1HT SimDist columns

- Stable up to 430°C—lowest bleed column, for longer lifetime.
- Meets all ASTM D6352 and D7500 specifications.
- 100% dimethyl polysiloxane phase allows easy comparisons to historical data.
- Unbreakable columns offer security when using hydrogen.

Superior resolution and peak shape on MXT®-1HT SimDist columns result in more accurate final boiling point determinations.



Column: MXT®-1HT Sim Dist, 5m, 0.53mm ID,  
0.20 $\mu$ m (cat.# 70115)  
Sample: C5-C100, 1% in carbon disulfide  
Inj.: 1 $\mu$ L on-column (PTV)  
Inj. temp.: 53°C to 430°C @ 10°C/min. (hold 5 min.)

Carrier gas: helium, constant flow  
Flow rate: 18mL/min.  
Oven temp.: 50°C to 430°C @  
10°C/min. (hold 5 min.)  
Det.: FID @ 430°C  
Instrument: Shimadzu 2010

RESTEK  REFINED  
New Solutions for Your Petro Analyses

Introductory Offer on our expanded line of

**Cylinders & Valves  
for Gas Sampling**

**Buy 5 Valves,  
Get the 6th FREE!**

Offer ends 3/31/11



## MXT®-1HT SimDist Column (Siltek® treated stainless steel)

ID	df ( $\mu$ m)	temp. limits	length	qty.	cat. #
0.53mm	0.10 $\mu$ m	-60 to 430/450°C	5m	ea.	70112
0.53mm	0.20 $\mu$ m	-60 to 430/450°C	5m	ea.	70115

For additional column dimensions, visit [www.restek.com](http://www.restek.com)

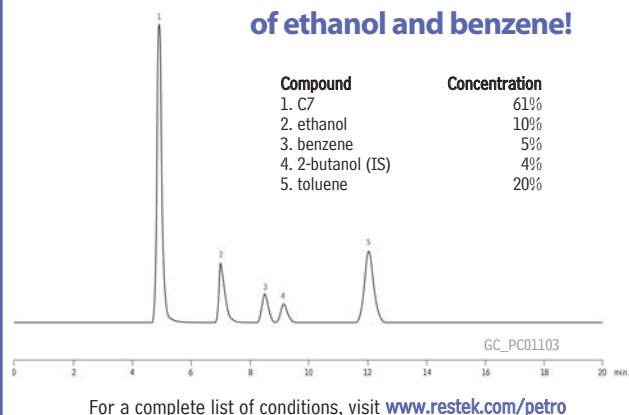
**NEW!**

## D3606 Column Set

### Outperforms TCEP Column for Benzene Analysis

- Complete resolution of ethanol and benzene improves accuracy and allows tighter process control.
- Fully conditioned column set—ready to use out of the box.
- Each column set is tested for method applicability and includes chromatogram.

#### Baseline resolution of ethanol and benzene!



For a complete list of conditions, visit [www.restek.com/petro](http://www.restek.com/petro)

#### D3606 Application Column Set

(2 column set)\*\*:

Column 1: 6' (1.8m), 1/8" OD, 2.0mm ID, nonpolar Rtx-1

Column 2: 16' (4.9m), 1/8" OD, 2.0mm ID, proprietary packing material

Description	cat. #**
D3606 Application Column (2 column set)**	83606-
ASTM D3606 Calibration Kit with MEK Internal Standard	30673 (kit)

ASTM D3606 Calibration Kit with sec-Butanol Internal Standard 30674 (kit)

\*Please add column configuration suffix number from our catalog to cat. # when ordering—see our catalog or website.

\*\*The column set is designed to accommodate both valve injection and/or syringe injection. Column 1 is configured with a 2" inlet void to facilitate on-column injection. The inlet is identified on both column 1 and column 2. Note: The inlet of column 2 is identified for proper orientation for connection to the valve.

## DHA analysis: Trouble with tailing alcohol peaks is over...

**Rtx®-DHA** 

- Sharp alcohol peaks: accurate data
- Each column tested to ASTM D6730 specifications
- Guaranteed Performance: Temperature ranges up to 300°C for elution of higher hydrocarbons.

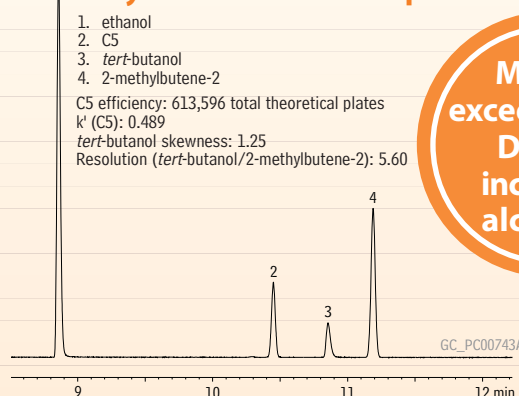
#### Rtx®-DHA Columns (fused silica)

(Crossbond® 100% dimethyl polysiloxane—optimized for hydrocarbon analysis)

ID	df	temp. limits	length	qty.	cat. #
0.20mm	0.50µm	-60 to 300/340°C	50m	ea.	10147
0.25mm	0.50µm	-60 to 300/340°C	100m	ea.	10148
0.25mm	1.00µm	-60 to 300/340°C	150m	ea.	10149

Visit [www.restek.com/petro](http://www.restek.com/petro) for complete offering of DHA Standards.

#### Rtx®-DHA column produces sharp symmetrical alcohol peaks!



**Meet & exceed ASTM D6730, including alcohols!**

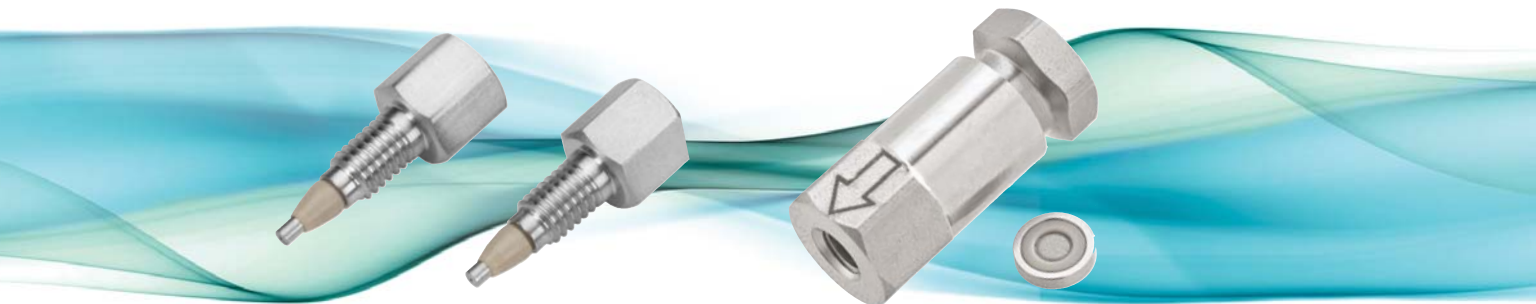
**Column:** Rtx®-DHA, 100m, 0.25mm ID, 0.5µm (cat. # 10148) plus Rtx®-5DHA tuning column, 2.62m, 0.25mm ID, 1.0µm, connected via Press-Tight® connector (cat. # 20446) **Sample:** custom detailed hydrocarbons analysis (DHA) mix, neat  
For full analytical conditions, visit [restek.com](http://restek.com) and search for GC\_PC00743A



# Protect your column and your UHPLC performance with UltraShield and UltraLine UHPLC Filters

NEW!

A cost-effective way to extend the lifetime of any UHPLC column without sacrificing your UHPLC performance on any LC system



## UltraShield UHPLC PreColumn Filter

Description	qty.	cat. #
UltraShield UHPLC PreColumn Filter	ea.	24995-712
UltraShield UHPLC PreColumn Filter	5-pk.	24996-712
UltraShield UHPLC PreColumn Filter	10-pk.	24997-712

## UltraLine UHPLC In-Line Filter

Description	qty.	cat. #
UltraLine UHPLC In-Line Filter (In-Line Assembly with Filter)	ea.	24993-712
UltraLine Replacement Filters	5-pk.	24994-712

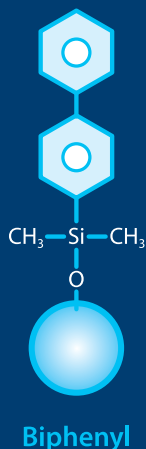
Offer valid on listed items through June 30, 2011, or while supplies last. Discount cannot be combined with any other offers. Distributor participation may vary.

# Biphenyl

## Leading Resolution in LC

- Resolve a wider range of compound chemistries compared to a C18 or phenyl column.
- Easy separations with methanolic mobile phases—no acetonitrile needed.
- Perfect for aromatics including drugs of abuse, pharmaceuticals, metabolites and more.
- Enhanced and alternate selectivity—ideal for method development and column switching.

Go to: [www.restek.com/biphenyl](http://www.restek.com/biphenyl) for more information





## The **SUPPLIES** you **NEED**

### Piston Seals

for Agilent 1050, 1100, and 1200 Instruments

Piston seals wear out over time and Restek is your best option for economical replacements. Choose our graphite-filled Teflon® seals, which are best for organic solvents.



#### Piston Seals, Teflon w/Graphite, Black

qty.	Agilent part #	Restek cat. #
2-pk.	5063-6589	22482
10-pk.	NA	22483

### Universal 10-32 PEEK™ Column Connectors and Plugs

Universal PEEK™ Connectors allow easy installation of all 1/16-inch tubing, including stainless steel.

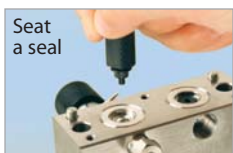
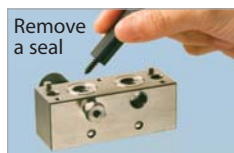


Description	qty.	cat. #
PEEK Column Connector (beige, round body)	10-pk.	25015
PEEK Column Plug (black)	10-pk.	25016
PEEK Fingertight Fittings (blue, flat-sided)	10-pk.	25324

## The **INNOVATION** you **WANT**

### HPLC Piston Seal Insertion Tool

Simplify pump maintenance: use one end to remove your old seal, then simply slip your new seal on the other end and push it flush into position. The tool cannot mar the surrounding metal surface of the pump housing.



Description	qty.	cat. #
HPLC Piston Seal Insertion Tool	ea.	21356

### PEEK™ Fitting Extractor

Drill into the broken fitting, then screw the extractor into the fitting and remove it easily. Eliminates the need for heat or other techniques that could damage your column.



Easily remove a broken PEEK fitting.

Description	qty.	cat. #
PEEK Fitting Extractor	ea.	25325

## The **SAVINGS** you **ENJOY**

### Survival Kit for HPLC, Stainless Steel

*For start-up and maintenance in all HPLC systems.*

The stainless steel survival kit contains a wide range of tubing, fittings, and tools necessary to set up and maintain your HPLC system: a selection of lengths and IDs of 1/16-inch tubing, plus nuts, ferrules, a ValvTool wrench, and a zero-dead-volume union.



Description	qty.	cat. #
Survival Kit for HPLC, Stainless Steel	kit	25097

### Survival Kit for HPLC, PEEK™

*For start-up and maintenance in all HPLC systems.*

The PEEK™ Survival Kit is an invaluable parts kit that contains tubing, fittings, and tools essential for setting up and maintaining your HPLC system: PEEK™ tubing, connectors, and elbows, Teflon® tubing, a tubing cutter and extra blades, a ValvTool wrench, open-end wrenches, and more.



Description	qty.	cat. #
Survival Kit for HPLC, PEEK	kit	25322

Visit [www.restek.com](http://www.restek.com) for a complete list of kit contents.



# Canister Passive Sampling Kits

## For Whole Air Sampling Without a Pump

### Grab Sampling Kits

**NEW!**

- Use with 1, 3, or 6 L canisters, for qualitative grab air sampling.
- Variety of orifice sizes, for fast sampling from 5 to 60 minutes.
- 1/4" compression fitting connects directly to canister valve inlet.
- Replaceable frit protects orifice and valve from particulates.
- Sample inlet design minimizes water entry into sampling train.
- Individual replacement components available.



### Passive Air Sampling Kits—Grab

Canister Volume/Sampling Time (min.)			Flow (mL/min.)	Orifice Size	Siltek Treated Grab Sampling Kits cat.#
1 L Canister	3 L Canister	6 L Canister			
60	—	—	15	0.0018"	26280
30	—	—	20	0.0020"	26281
15	60	—	45	0.0030"	26282
—	30	60	80	0.0040"	26283
5	15	30	150	0.0055"	26284
—	—	15	300	0.0080"	26285
—	5	—	390	0.0090"	26286
—	—	5	>1,000	0.0130"	26287

Also available in stainless steel. Air sampling canisters sold separately.

### Integrated Sampling Kits

- Provide accurate integrated sampling without a sampling pump.
- Siltek® treated components ensure accurate sampling of active components.
- Excellent for sampling times from 0.5 hour to 125 hours.



### Passive Air Sampling Kits—Integrated

Canister Volume/Sampling Time					Flow (mL/min.)	Orifice size	Siltek Treated Sampling Kits
400cc	1 Liter	3 Liter	6 Liter	15 Liter			
8 hour	24 hour	48 hour	125 hour	—	0.5–2	0.0008"	24217
2 hour	4 hour	12 hour	24 hour	60 hour	2–4	0.0012"	24160
1 hour	2 hour	6 hour	12 hour	30 hour	4–8	0.0016"	24161
—	1 hour	4 hour	8 hour	20 hour	8–15	0.0020"	24162
—	—	2 hour	3 hour	8 hour	15–30	0.0030"	24163
—	—	—	1.5 hour	4 hour	30–80	0.0060"	24164
—	—	—	0.5 hour	1 hour	80–340	0.0090"	22101

Also available in stainless steel. Air sampling canisters sold separately.

### Dual Canister Sampling Manifold

Stainless Steel  
& Sulfinert®  
Treated



**NEW!**

- Duplicate sampling with all size canisters using 1 or 2 flow controllers.
- Precise dimensions (9.5" wide x 3.5" high) provide accurate splitting of sample between two canisters.
- One-piece design means fewer leaks.
- Thick walled stainless steel tubing is rugged enough for field use.
- 1/4" compression connections.

Note: Do not use the DCSM as a handle to pick up 2 canisters!

Description	Stainless Steel cat.#	Sulfinert Treated cat.#
Dual Canister Sampling Manifold	24998	24999

### Soil Gas Sampler

Stainless Steel & Sulfinert® Treated

**NEW!**

This unique grab sampler is specifically designed for soil gas sampling by allowing the connection of tubing coming from the soil gas sample port. The innovative design minimizes connections and leaks and houses a critical orifice in the tee fitting. It also incorporates a vacuum gauge and 2 µm frit filter.

#### Assembled sampler includes:

- Stainless steel tee with orifice.
- 11/2" vacuum gauge (-30" Hg to 0" Hg).
- 2 µm frit filter for insertion into 1/4" compression sample inlet.
- 1/4" port connector to canister valve.



Sampling Time for 6 L Canister			Flow	Orifice Size	Siltek Treated Soil Gas Sampler Kit cat.#	Stainless Steel Soil Gas Sampler Kit cat.#
20 min.	30 min.	1 hr.				
210 mL/min.	150 mL/min.	80 mL/min.		0.0065"	22935	22930
				0.0055"	22936	22931
				0.0040"	22937	22932
				0.0020"	22938	22933
				0.0014"	22939	22934

Air sampling canisters sold separately.



## Complete Offering to Support EPH Methods

Wide selection to support many state methods.

**MA EPH Aromatic Hydrocarbon Standard**

1,000 $\mu$ g/mL each in methylene chloride, 1mL/ampul  
cat. # 31458

**MA EPH Surrogate Spike Mix**

4,000 $\mu$ g/mL each in acetone, 1mL/ampul  
cat. # 31479

**MA EPH Matrix Spike Mix**

250 $\mu$ g/mL each in acetone, 1mL/ampul  
cat. # 31460

**MA EPH Aliphatic Hydrocarbon Standard**

1,000 $\mu$ g/mL each in hexane, 1mL/ampul  
cat. # 31459

**MA Fractionation Check Mix**

25 $\mu$ g/mL each in hexane, 1mL/ampul  
cat. # 31481

**5- $\alpha$ -androstane**

2,000 $\mu$ g/mL in methylene chloride, 1mL/ampul  
cat. # 31065

**Naphthalene-d8**

2,000 $\mu$ g/mL in methylene chloride, 1mL/ampul  
cat. # 31043

**MA Fractionation Surrogate Spike Mix**

4,000 $\mu$ g/mL each in hexane, 1mL/ampul  
cat. # 31480

**1-Chlorooctadecane**

10,000 $\mu$ g/mL in methylene chloride, 1mL/ampul  
cat. # 31098

For a complete list of EPH standards visit  
[www.restek.com/eph](http://www.restek.com/eph)

# MegaMix<sup>®</sup>

Time-Saving MegaMix<sup>®</sup> Environmental Reference Mixes.

- Largest number of target analytes in one mix, formulated for maximum stability.
- Available for US EPA methods 8260, 8270, 502.2, 524.2, 525.2, 624, 625, SOM01.1, OLC 03.2, OLM 04.2, Skinner List volatiles, Skinner List semivolatiles.

Save time, save effort, minimize potential for preparation problems—use MegaMix<sup>®</sup> reference mixes, only from Restek or authorized distributors.

Go to [www.restek.com/megamix](http://www.restek.com/megamix)

**Free Datapacks  
available online!**

[www.restek.com/documents](http://www.restek.com/documents)





NEW!

# ProFLOW 6000

## Electronic Flowmeter

### State-of-the-art features include:

- Measures volumetric flow for most gases across a range of 0.5-500 mL/min.
- NIST traceable calibration.
- Ex rating (electrical apparatus for explosive gas atmospheres) for hydrogen and related gas types.
- Accuracy of  $\pm 2\%$  of flow or  $\pm 0.2$  mL/min., whichever is greater.
- Data output via USB port.

The new Restek ProFLOW 6000 is the only flowmeter you need for any type of chromatography gas measurement because of its wide range of capabilities. The ProFLOW 6000 is an electronic device capable of measuring volumetric flow for most gases. Real-time measurements can be made for various types of flow paths, including continually changing gas types. This portable unit is designed for easy hand-held use, and the stand adds bench-top convenience.

Description	qty.	cat.#
Restek ProFLOW 6000 Electronic Flowmeter with Hard-Sided Carrying Case	ea.	22656-409

### Flowmeter Facts:

Type of flowmeter:	volumetric	Warranty:	one year
Battery:	2AA	Certifications:	CE, Ex
Operating Temp. Range:	32-120°F (0-48°C)	Compliance:	WEEE, RoHS

\*The flowmeter is designed to measure clean, dry, non-corrosive gases.

\*\*Offer valid through April 30, 2011, or while supplies last. Discount cannot be combined with any other offers.

Go to [www.restek.com/flowmeter](http://www.restek.com/flowmeter) for a list of complete product features.

Patent Pending

# RESTEK

Lit. Cat.# GNES1324-INT

2011 v.1

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ISO 9001:2008  
cert.# FM80397

## Introducing our expanded line of **Sample Cylinders & Valves** for Gas Sampling **Buy 5 Valves, Get the 6<sup>th</sup> FREE!**

See page 13 for details



## Introducing the New **Flip Seal!**

A **Reversible** Dual Vespel® Ring  
Inlet Seal that lasts twice as long!

***Special Promotion Available!***

See page 15 for details



## What's New!



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New Website .....	16

## Great Savings!



Syringe Filters.....	4
Buy 1 Get 1 Free QuEChERS .....	11
Buy 5 Valves, Get 1 Free.....	13
Free Base Plate.....	14
Buy New Flip Seals Get Free Adaptor.....	15

## Rtx®-5 Columns

Recommended Column for NJ EPH

- Excellent for TPH analysis
- Low bleed
- Temperature range -60°C to 350°C

**Rtx®**  
GCColumns

### Rtx®-5 Columns (fused silica)

(low polarity phase; Crossbond® 5% dimethyl polysiloxane)

ID	df (µm)	temp. limits	length	qty.	cat. #
0.32mm	0.25µm	-60 to 330/350°C	30m	ea.	10224



For higher temperature GC Analysis use the Rxi®-5HT column.  
Visit [www.restek.com/rxi](http://www.restek.com/rxi) for more information.



## Inlet Liners

the Perfect Choice for EPH Analysis

**A Single Gooseneck Liner with our NEW Semivolatiles Wool for Splitless Applications.**

### 4.0mm ID Single Gooseneck Inlet Liner with Wool

ID x OD & Length	qty.	cat.#
4.0mm x 6.5mm x 78.5mm	ea.	20798-231.1
4.0mm x 6.5mm x 78.5mm	5-pk.	20799-231.5
4.0mm x 6.5mm x 78.5mm	25-pk.	20800-231.25

## Complete Offering to Support EPH Methods

Wide selection to support many state methods.

### MA EPH Aromatic Hydrocarbon Standard

1,000µg/mL each in methylene chloride, 1mL/ampul  
cat. # 31458 (ea.)

### MA EPH Surrogate Spike Mix

4,000µg/mL each in acetone, 1mL/ampul  
cat. # 31479 (ea.)

### MA EPH Matrix Spike Mix

250µg/mL each in acetone, 1mL/ampul  
cat. # 31460 (ea.)

### MA EPH Aliphatic Hydrocarbon Standard

1,000µg/mL each in hexane, 1mL/ampul  
cat. # 31459 (ea.)

### MA Fractionation Check Mix

25µg/mL each in hexane, 1mL/ampul  
cat. # 31481 (ea.)

### 5-α-androstane

2,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31065 (ea.)

### Naphthalene-d8

2,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31043 (ea.)

### MA Fractionation Surrogate Spike Mix

4,000µg/mL each in hexane, 1mL/ampul  
cat. # 31480 (ea.)

### 1-Chlorooctadecane Mix

10,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31098 (ea.)

**For a complete list of EPH standards visit**  
**[www.restek.com/envstandards](http://www.restek.com/envstandards)**



## Essential Accessories

### 2.0mL Crimp-Top Glass Vials

12 x 32mm, 11mm



Description	Color	100-pk.	1000-pk.
Vial w/White Graduated Marking Spot	Clear	24383	24384
Vial w/White Graduated Marking Spot	Amber	24385	24386
Vial without Graduated Marking Spot	Clear	21152	21153

### 2.0mL, 11mm Aluminum Crimp Seals with Septa



Seal Color	Septa Material	100-pk.	1000-pk.
Silver	PTFE/Natural Rubber	21174	21175

### Inserts

for 2.0mL, 11mm Crimp-Top  
& 2.0mL, 9mm Short-Cap,  
Screw-Thread Vials



Description	100-pk.	1000-pk.
50µL Glass, Big Mouth Insert w/Bottom Spring	24513	21782
250µL Glass, Big Mouth Insert w/Bottom Spring	21776	21777
250µL Glass, Big Mouth Insert w/Glass Flange (Step Design)	24516	21779
350µL Glass, Insert, Flat Bottom	21780	24517
350µL Glass, Insert, Flat Bottom w/ID Ring	24692	24693

## Measure Your Savings!

Hamilton  
Syringes  
from Restek!



Stock up and save today!  
Visit [www.restek.com/syringe](http://www.restek.com/syringe)

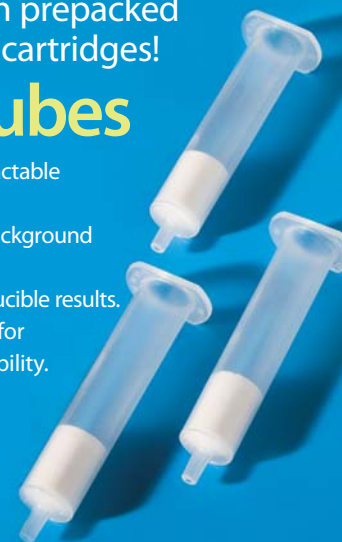
Save Time with prepacked  
sample prep cartridges!

## MA EPH Tubes

- Superior fractionation of extractable petroleum hydrocarbons.
- Easier quantification; lower background & less interference.
- Reliable, accurate, and reproducible results.
- Unique packaging designed for convenience and storage stability.

### Get More!

Search for Application Note  
580135 (p. 14-15) at  
[www.restek.com](http://www.restek.com)



Description	Tube Volume, Bed Weight	qty.	cat.#	price
Massachusetts EPH	20mL, 5g	20-pk.	26065	



# Ethylene Glycol Essentials

## Stabilwax® Columns



(polar phase; Crossbond® Carbowax® polyethylene glycol)

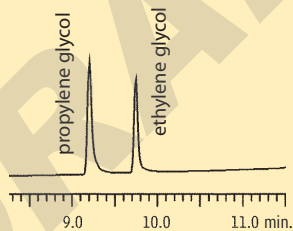
- General purpose columns for FAMES, flavor compounds, essential oils, solvents, xylene isomers, and US EPA Method 603 (acrolein/acrylonitrile).
- Resistant to oxidative damage.
- Temperature range: 40°C to 260°C maximum operating temperature.

ID	df (μm)	temp. limits	length	cat. #
0.53mm	1.00	40 to 240/260°C	30-Meter	10655

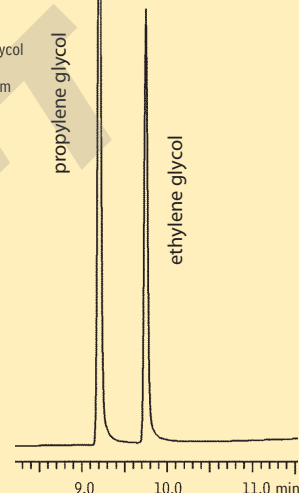
The Stabilwax® column can easily analyze 5ppm and 25ppm standards.

Column: 30m, 0.53mm ID, 1.0μm Stabilwax (cat. # 10655); Sample: 1.0μL of ethylene glycol and propylene glycol sample in water. For complete conditions visit [www.restek.com](http://www.restek.com) and search for **Application Note #EVAN1248**

5ppm standard



25ppm standard



## Diethylene & Ethylene Glycol Standards

### Glycerin Standard Mix (3 components)

diethylene glycol	0.5mg/mL	glycerin	20mg/mL
ethylene glycol	0.5mg/mL		
In P&T methanol, 1mL/ampul		cat. # 31891	(ea.)

### Propylene Glycol Standard Mix (3 components)

diethylene glycol	0.5mg/mL	propylene glycol	20mg/mL
ethylene glycol	0.5mg/mL		
In P&T methanol, 1mL/ampul		cat. # 31892	(ea.)

### Sorbitol Standard Mix (2 components)

diethylene glycol	ethylene glycol
0.8mg/mL each in acetone:water (90:10), 1mL/ampul	
cat. # 31893	

### Glycol Internal Standard Mix

2,2,2-Trichloroethanol

10mg/mL in P&T methanol, 1mL/ampul	cat. # 31894	(ea.)
------------------------------------	--------------	-------

## Inlet Liners

Drilled Uniliner® with Hole Near Top



4.0mm ID Drilled Uniliner® Inlet Liner with Hole Near Top

ID x OD & Length	qty.	cat. #
4.0mm x 6.3mm x 78.5mm	ea.	21054
4.0mm x 6.3mm x 78.5mm	5-pk.	21055
4.0mm x 6.3mm x 78.5mm	25-pk.	20998

## Extraction Cells and Replacement Parts for ASE® Systems

### Parts for ASE® Systems available:

**Autoseal Tip Assembly** for ASE® 200 Systems  
**Diatomaceous Earth**  
**Extraction Cell Parts** for ASE® 200 Systems  
**Extraction Cell Parts** for ASE® 300/100 Systems  
**Filters** for ASE® 200 Extraction Cells, 20mm  
**Filters** for ASE® 300/100 Extraction Cells, 30mm  
**PEEK™ Washers** for ASE® 200 Systems  
**PEEK™ Washers** for ASE® 300/100 Systems  
**Resprep™ Tools** for ASE® Systems  
**Retaining Ring Pliers** for ASE® 100/200/300 Systems  
**Sample Collection Bottles** for ASE® 300/100 Systems, 250mL  
**Sample Collection Vials** for ASE® 200 Systems, 60mL  
**NEW! Tubing Assembly** for ASE® 200 Systems  
**Valves** for ASE® 100/200/300 Systems

**Great Prices & Quick Delivery!**

**NEW Extraction cells now serialized!**



**Mega Mix**  
 Time-Saving  
**EPA 8270 MegaMix®**  
 (76 components)  
[www.restek.com/megamix](http://www.restek.com/megamix)

## Syringe Filters with Luer Lock Inlet



**Cut costs, not corners!**

Top quality filters at lower costs than even the discounted prices of other manufacturers!

Compare our quality with your current brand using our

**FREE no risk sample packs.**

**Contact your local distributor today!**

Visit [www.restek.com/filters](http://www.restek.com/filters) for complete product listing and 12 reasons to buy Restek syringe filters



# NEW! Rxi<sup>®</sup>-624Sil MS

## The **Go To** GC Column for Fast, Effective Volatile Impurities Method Development

### **Go To...**the right column first

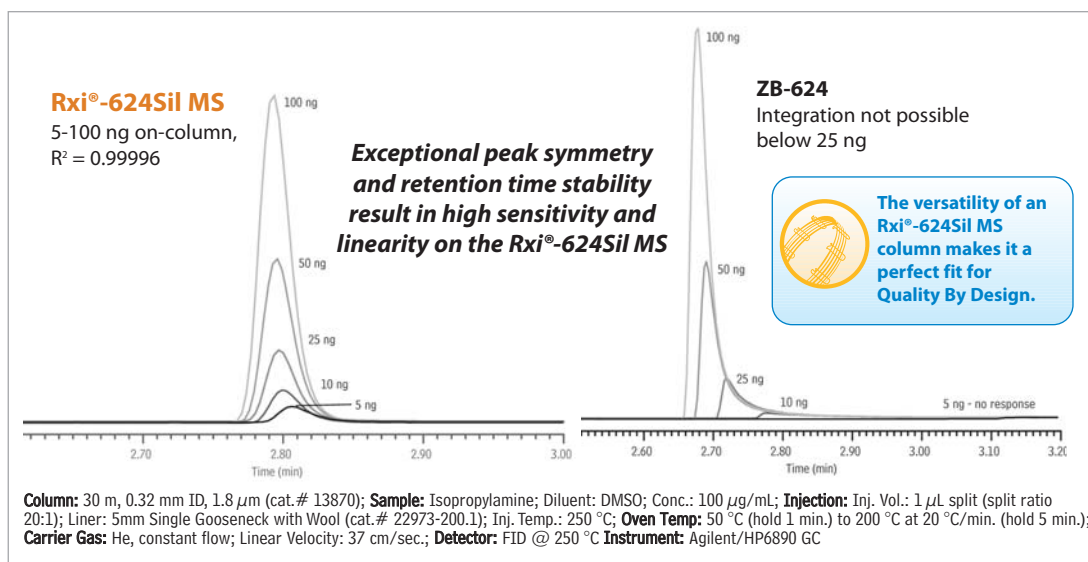
For better retention of polar analytes and improved accuracy, peak shape, and response for active compounds.

### **Go To...**mass spec directly

With the lowest bleed 624 column available; stable up to 320 °C, for easy transfer of methods to GC/MS.

### **Go To...**the next batch faster

With the best-in-class G43 for USP methods.



### Rxi<sup>®</sup>-624Sil MS Columns (fused silica)

- Low bleed, high thermal stability column—maximum temperatures up to 320°C.
- Inert—excellent peak shape for a wide range of compounds, including acidic and basic compounds.
- Selective—highly selective for residual solvents, great choice for USP<467>.
- Manufactured for column-to-column reproducibility—well-suited for validated methods.

(mid polarity Crossbond<sup>®</sup> silarylene phase; equivalent to 6% cyanopropylphenyl/94% dimethyl polysiloxane)

ID	df ( $\mu$ m)	temp. limits	20-Meter	30-Meter	60-Meter
0.18mm	1.00	-20 to 300/320°C	13865		
0.25mm	1.40	-20 to 300/320°C		13868	
0.32mm	1.80	-20 to 300/320°C		13870	13872
0.53mm	3.00	-20 to 280/300°C		13871	



## Not all "624s" are Equivalent

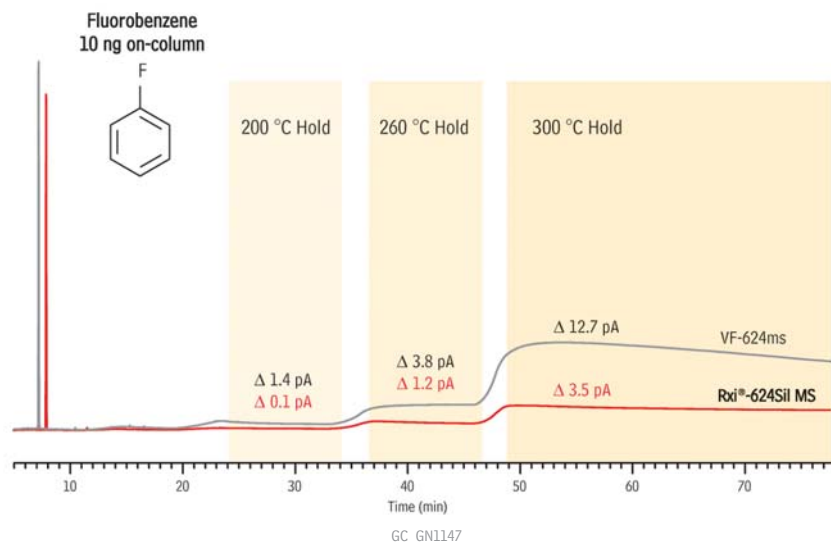
### High thermal stability Rxi®-624Sil MS columns offer:

- Longer column lifetime.
- Improved method reproducibility.
- GC/MS compatibility.
- Stable baseline.



Ideal for use  
with FID and MS  
detectors.

Column	Manufacturer	Maximum Programmable Temperature
Rxi®-624Sil MS	Restek	320 °C
VF-624ms	Varian	300 °C
DB-624	Agilent J&W	260 °C
ZB-624	Phenomenex	260 °C



Couple the right column  
with the right liner. Visit  
[www.restek.com/liners](http://www.restek.com/liners)  
for a complete selection.



### Custom Residual Solvent Mixes

A perfect match for validated residual  
solvent methods

Save time and money with mixes prepared to  
your specific solvent set and concentrations. The  
more you buy the less you pay per ampul!

Easy Online Order Form!  
[www.restek.com/customusp](http://www.restek.com/customusp)



### Get More!

Request flyer  
PHFL1245  
for more  
information on  
Rxi®-624Sil MS  
Columns



Make the Switch  
to Rxi® columns!



# Combine Speed and Selectivity with Ultra II UHPLC and HPLC Columns



- **Ultra Selectivity** - Widest variety of stationary phases and selectivity on any UHPLC column line
- **Ultra Utility** - Full range of particle sizes for use on any HPLC and UHPLC system
- **Ultra Reproducibility** – 100% Restek manufactured silica for column-to column reproducibility
- **Ultra Scalability** – Both HPLC and UHPLC columns manufactured from identical silica support to reliably scale methods between systems

## Excellent choice

for method development  
using column switching  
systems and systematic  
Quality by Design  
approaches

### Available Particle Sizes:

- 1.9µm for UHPLC
- 2.2µm for UFLC and RRLC
- 3µm and 5µm for HPLC

## Get UHPLC Speed at HPLC Prices!

Restek lets you speed up analyses  
without paying a premium.  
**Compare today and save!**

## Widest Selectivity Available on Any UHPLC Column line!

### Available Phases

#### Ultra II C18

### Phase Description

Inert and Rugged Reversed Phase Octadecyl

#### Ultra II C8

Inert and Rugged general purpose

#### Ultra II Aqueous C18

Uniquely modified Alkyl for balanced retention and improved mobile phase compatibility relative to a conventional C18.

#### Ultra II IBD

Unique Polar Embedded Alkyl for symmetry of bases and increased retention of acids. Orthogonal selectivity to a C18.

#### Ultra II Biphenyl

Unique Biphenyl phase for enhanced retention and selectivity over phenyl and phenyl hexyl phases. Orthogonal selectivity to a C18

#### Ultra II Aromax

Proprietary Phenyl phase for maximum aromatic selectivity and retention. Orthogonal selectivity to a C18

#### Ultra II PFP Propyl

Pentafluorophenyl phase for increased retention of basic compounds. Orthogonal selectivity to a C18

#### Ultra II Silica

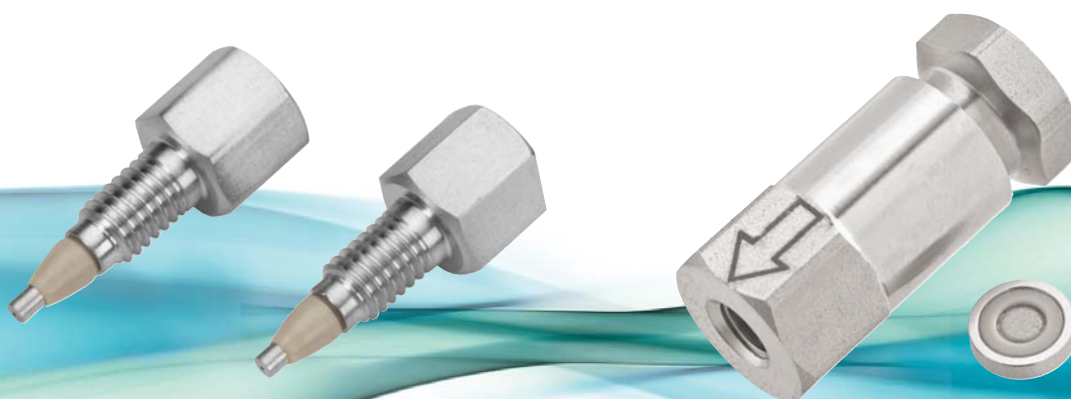
General purpose Silica column for normal phase and HILIC separations

**Restek Innovative Phase!**



## Protect your column and your performance with Ultra Shield and Ultra Line UHPLC Filters

A cost-effective way to extend the lifetime of any UHPLC column without sacrificing your UHPLC performance



Use  
with any  
UHPLC  
System

### UltraShield UHPLC PreColumn Filter

- Economical protection against microparticles.
- Longer UHPLC column lifetime.
- Does not contribute to system backpressure or band broadening.
- Universal fit—easily connects directly to column.
- Leak-tight to 15,000 psi (1034 bar).

Description	qty.	cat. #
UltraShield UHPLC PreColumn Filter	ea.	24995
UltraShield UHPLC PreColumn Filter	5-pk.	24996
UltraShield UHPLC PreColumn Filter	10-pk.	24997

### UltraLine UHPLC In-Line Filter

- Cost-effective protection for UHPLC systems.
- Installs, includes replaceable filter element.
- Does not contribute to system backpressure or band broadening.
- Leak-tight to 15,000 psi (1034 bar).

Description	qty.	cat. #
UltraLine UHPLC In-Line Filter		
(In-Line Assembly with Filter)	ea.	24993
UltraLine Replacement Filters	5-pk.	24994

For more information visit [www.restek.com](http://www.restek.com)

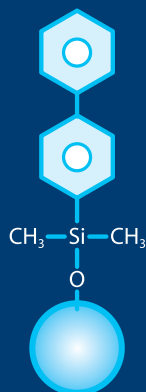


# Biphenyl

## Leading Resolution in LC

- Resolve a wider range of compound chemistries compared to a C18 or phenyl column.
- Easy separations with methanolic mobile phases—no acetonitrile needed.
- Perfect for aromatics including drugs of abuse, pharmaceuticals, metabolites and more.
- Enhanced and alternate selectivity—ideal for method development and column switching.

UltraII<sup>®</sup>  
LC Columns



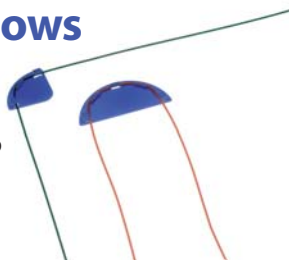
Biphenyl



Go to:  
[www.restek/biphenyl](http://www.restek/biphenyl)  
for more information

## PEEK™ Tubing Elbows

Tubing Elbows (90° and 180°) are ideal for routing 1/16-inch PEEK™ tubing through your system. Simply snap the tubing into the elbow. Prevent pinching of PEEK™ tubing which can cause high pressure.



## Clean-Cut Tubing Cutter

- Burr-free, perpendicular cuts that will not distort the tubing OD or close the ID.
- Use on PEEK™, Teflon®, Tefzel®, other polymeric tubing.



Description	qty.	cat. #
PEEK Tubing Elbow, 90°	5-pk.	25308
PEEK Tubing Elbow, 180°	5-pk.	25309

Description	qty.	cat. #
Clean-Cut Tubing Cutter	ea.	25069
Replacement Blade for Clean-Cut Cutter	ea.	25070



## Q-sep™ QuEChERS Products

Multi-residue pesticide analysis  
from food and other matrices.

### Introducing New Q-sep™ Extraction Salt Packets!

- Convenient and easy to use.
- Eliminates the need for a second tube to transfer salts.

*Supports AOAC (2007.01) &  
European (EN 15662) QuEChERS  
Methods*

[www.restek.com/quechers](http://www.restek.com/quechers)

## BUY 1, GET 1 FREE!

extraction salt packet products



**NEW!**

### Buy 1, Get 1 free offer applies to the following products:

Description	Material	Methods	qty.	cat#
Q110 Kit BOGO!	4g MgSO <sub>4</sub> , 1g NaCl, 1g TSCD, 0.5g DHS with 50mL Centrifuge Tube	European EN 15662	50 packets & 50 tubes	26235-408
Q110 Packets BOGO!	4g MgSO <sub>4</sub> , 1g NaCl, 1g TSCD, 0.5g DHS	European EN 15662	50 packets	26236-408
Q150 Kit BOGO!	6g MgSO <sub>4</sub> , 1.5g NaOAc with 50mL Centrifuge Tube	AOAC 2007.01	50 packets & 50 tubes	26237-408
Q150 Packets BOGO!	6g MgSO <sub>4</sub> , 1.5g NaOAc	AOAC 2007.01	50 packets	26238-408

**Offer valid through October 31, 2010, or while supplies last.** Discount cannot be combined with any other offers. Distributor participation may vary. Prices, if listed, reflect discounted amount. Limit one per customer.

## Introducing NEW Q-sep™ 3000 Centrifuge for QuEChERS



Priced to fit your laboratory's budget, the Q-sep™ 3000 Centrifuge is the first centrifuge specifically designed for QuEChERS methodology. This compact, quiet, yet powerful, unit spins at the 3,000g force required by the European method.



For product listing, visit [www.restek.com/quechers](http://www.restek.com/quechers)

## Standards Available! to support AOAC (2007.01) & European (EN15662) QuEChERS Methods

Q-sep™  
QuEChERS Products

Method-specific  
internal and  
QC standards!





# Next Generation PLOT Columns

Keep retention times stable and minimize GC down time using stabilized PLOT columns

Restek has developed new procedures to manufacture PLOT columns with concentric stabilized adsorption layers. The new generation PLOT columns show a constant flow behavior and have significantly improved mechanical stability, resulting in easier operation, more reproducible retention times, and reduced particle release.

**NEW!** advanced technology

## PLOT Columns

- Rt<sup>®</sup>-Q-BOND
- Rt<sup>®</sup>-QS-BOND
- Rt<sup>®</sup>-S-BOND
- Rt<sup>®</sup>-U-BOND
- Rt<sup>®</sup>-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub>
- Rt<sup>®</sup>-Alumina BOND/KCl
- Rt<sup>®</sup>-Msieve 5A
- MXT<sup>®</sup>-Msieve 5A
- MXT<sup>®</sup>-Alumina BOND/Na<sub>2</sub>SO<sub>4</sub>



**Get Standards to support ASTM methods!**

D3606 • Oxygenates  
Setup • PIANO  
SimDist • PONA VI



## tech tip

**Do you want to use valve injection or switching?**

For this application, Restek bonded PLOT columns outperform any other PLOT column.

- Best performance
- Best reproducibility
- Best price

# Introducing our expanded line of Sample Cylinders & Valves for Gas Sampling

- Both Sulfinert treated & stainless steel
- DOT rated to 1800psi & 5000psi
- Multiple valve configurations, including dip tube and rupture disks
- Range of cylinder sizes, 75cc to 2250cc
- TPED compliant for EU community

**NEW!**

**Take Advantage of this Introductory  
Offer while supplies last!**

**Buy 5 Valves, Get the 6th FREE!**

Description	qty.	cat.#
3,500 psig DOT Pressure Rating, Stainless Steel		
1/4" Male NPT x 1/4" Male NPT	6-pk.	26297-600
1/4" Male NPT x 1/4" Female NPT	6-pk.	26298-600
1/4" Male NPT x 1/4" Male Compression	6-pk.	26300-600
1/4" Male NPT x 1/4" Male NPT w/1,800 psi Rupture Disc	6-pk.	26302-600
1/4" Male NPT x 1/4" Female NPT w/1,800 psi Rupture Disc	6-pk.	26304-600

Simply place your order referencing the catalog number from the table above.

**Offer valid on listed items through December 31, 2010**, or while supplies last. Discount cannot be combined with any other offers. Distributor participation may vary. Prices, if listed, reflect discounted amount.

Visit [www.restek.com/petro](http://www.restek.com/petro) for a complete line now available.

## Applications:

- ASTM D1265
- Hydrocarbon sampling in refineries & petrochemical plants

## Analyzing sulfur or mercury?

- Our unique Sulfinert® coating provides stable storage of sulfur and mercury at ppb levels
- Inert coating doesn't flake; more durable than Teflon®





# Inlet Liners with Semivolatiles Wool for Agilent GCs

## Inlet Liners w/Semivolatiles Wool

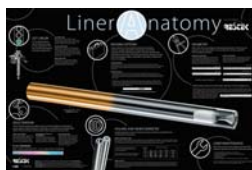
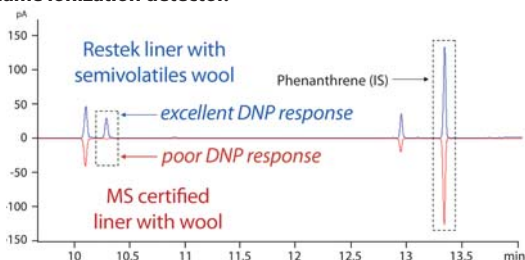
ID* x OD & Length	qty.	cat.#	price
Straight, Split	ea.	20781-231.1	
4.0mm x 6.3mm x 78.5mm	5-pk.	20782-231.5	
Single Gooseneck, Splitless	ea.	20798-231.1	
4.0mm x 6.5mm x 78.5mm	5-pk.	20799-231.5	
Drilled Uniliner (hole near bottom)	ea.	20756-231.1	
4.0mm x 6.3mm x 78.5mm	5-pk.	20771-231.5	
Drilled Uniliner (hole near top)	ea.	21054-231.1	
4.0mm x 6.3mm x 78.5mm	5-pk.	21055-231.5	

visit [www.restek.com/liners](http://www.restek.com/liners) for a full product listing

## Don't see what you need?

Restek carries a complete line of instrument specific liners. Visit us at [www.restek.com/liners](http://www.restek.com/liners) to view our liners for **Agilent, Shimadzu, PerkinElmer, Thermo Scientific, and Varian** GCs.

## Response of 2,4-dinitrophenol (10ng) relative to phenanthrene using a flame ionization detector.



## FREE Poster!

Get your liner anatomy wall chart! Call Restek at 800-356-1688 to request your free poster today!  
lit. cat.# GNWC1014

## FREE Base Plate with purchase of 2 triple filters

Get Super-Clean!

## Super-Clean Gas Filter & Base Plate Kit



Description	qty.	cat.#	price
Restek Exclusive Triple Filter Kit	kit	22859-409	

Offer valid through Dec. 31, 2010.  
Cannot be combined with other offers or discounts.

## Restek Electronic Leak Detector

### Protect your GC analytical column!

High temperature methods are extremely sensitive to carrier gas impurities such as water and oxygen. Make sure you have clean carrier gas and frequently check connections and injection system fittings for leaks using our electronic leak detector.

Leak Detector with  
Universal Charger Set  
(US, UK, European,  
Australian)  
Cat.# 22839



[www.restek.com/leakdetector](http://www.restek.com/leakdetector)

## Introducing the New Flip Seal!

A **Reversible** Dual Vespel® Ring Inlet Seal  
that lasts twice as long for the same great price!

- Reversible design allows twice as many uses as other inlet seals, at the same price.
- Vespel® ring embedded in top and bottom surface eliminates need for a washer.
- Highly inert gold and Siltek®-treated seals reduce breakdown and adsorption of active compounds, maximizing component transfer to GC column.
- 1/16-inch split/splitless adaptor fitting accepts standard capillary ferrules.

restek **innovation!**



**Patented**



1/16" Adaptor Fitting

**Buy a 10-pack of Flip Seals and  
Get a *Free adaptor fitting!***

0.8mm ID Flip Seal Dual Vespel Ring Inlet Seal	qty.	cat.#	price
Gold-Plated	10-pk. w/ free adaptor fitting	23409-409	
Siltek Treated	10-pk. w/ free adaptor fitting	23410-409	

To receive a free adaptor fitting, simply place your order referencing the catalog number from the above table. Discount cannot be combined with any other offers. Distributor participation may vary. Prices, if listed, reflect discounted amount. Offer valid through **December 31, 2010**, or while supplies last.

For more information visit  
[www.restek.com](http://www.restek.com)



## Super Septa

All Restek septa feature:

- Precision molding assures consistent, accurate fit.
- Preconditioned and ready to use.
- Do not adhere to hot metal surfaces.
- Packaged in precleaned glass jars.

**IceBlue®**—Usable to 250°C inlet temperature.

**BTO® Septa**—Usable to 400°C inlet temperature.

### Restek Thermolite® Septa

- Usable to 340°C inlet temperature.
- Excellent puncturability.
- Restek exclusive!



Septum Diameter	25-pk./price	50-pk./price	100-pk./price
5mm (1/16")	27120	27121	27122
6mm (1/4")	27123	27124	27125
7mm	27126	27127	27128
8mm	27129	27130	27131
9mm	27132	27133	27134
9.5mm (3/8")	27135	27136	27137
10mm	27138	27139	27140
11mm (7/16")	27141	27142	27143
11.5mm	27144	27145	27146
12.7mm (1/2")	27147	27148	27149
17mm	27150	27151	27152
Shimadzu Plug	27153	27154	27155

Visit [www.restek.com/septa](http://www.restek.com/septa) for a complete listing of septa available.

# Restek celebrates our 25<sup>th</sup> year in business with the launch of our new website October 15th!

Innovative Chromatography Solutions at your fingertips!

- Enhanced technical library featuring hundreds of chromatograms
- Simplified product selection tools
- Easy-to-use multi-component chemical standard search
- Complete solutions for your chromatographic needs



Visit the new [www.restek.com](http://www.restek.com)

**RESTEK**

ISO 9001:2008  
cert. # FM80397

Lit. Cat.# GNES1221-INT  
2010 v.5

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AUSTRALIAN Distributors [www.chromtech.net.au](http://www.chromtech.net.au)

10

Website : [www.chromtech.net.au](http://www.chromtech.net.au) E-mail : [www.chromtech.net.au](mailto:www.chromtech.net.au) TelNo : 03 9762 2034 . . . in AUSTRALIA



QuEChERS Products

Introducing **NEW** Q-sep™  
Extraction Salt Packets!

see page 10 for details

**BUY 1, GET 1 FREE!**  
extraction salt packet products



## Measure Trace Pollution

Restek has the technical  
knowledge and products  
to help set up your methods

**EPH Methods**

See page 2

**Ethylene Glycol Methods**

See page 4



Subscribe online!  
[www.restek.com/essentials](http://www.restek.com/essentials)

## What's New!

Air Can Accessories .....	5
Q-sep™ 3000 centrifuge .....	8
Ultra II® LC Columns .....	11
Rxi®-17Sil MS .....	14

## Great Savings!

Buy 1 Get 1 Free QuEChERS .....	10
Environmental Products Savings ....	12
Free Base Plate .....	13



## Everything you need to measure trace oil pollution

### Rtx®-5 Columns

- Excellent for TPH analysis
- Low bleed
- Temperature range -60°C to 350°C



#### Rtx®-5 Columns (fused silica)

(low polarity phase; Crossbond® 5% diphenyl/95% dimethyl polysiloxane)

ID	df (μm)	temp. limits	length	qty.	cat. #
0.25mm	0.25	-60 to 330/350°C	15-Meter	ea.	10220
0.25mm	0.25	-60 to 330/350°C	30-Meter	ea.	10223
0.25mm	0.50	-60 to 330/350°C	15-Meter	ea.	10235
0.25mm	0.50	-60 to 330/350°C	30-Meter	ea.	10238
0.32mm	0.25	-60 to 330/350°C	30-Meter	ea.	10224
0.32mm	1.00	-60 to 330/350°C	30-Meter	ea.	10254
0.53mm	1.50	-60 to 310/330°C	30-Meter	ea.	10270



For higher temperature GC Analysis use the Rxi®-5HT column. Visit [www.restek.com/rxi](http://www.restek.com/rxi) for more information.

### Inlet Liners

Single Gooseneck with Deactivated Wool



#### Liners w/Semivolatiles Wool

ID x OD & Length	qty.	cat.#	price
Single Gooseneck, Intermediate Polarity (IP), Semivolatiles Wool, Borosilicate Glass			
4.0mm x 6.5mm x 78.5mm	ea.	20798-231.1	
4.0mm x 6.5mm x 78.5mm	5-pk.	20799-231.5	
4.0mm x 6.5mm x 78.5mm	25-pk.	20800-231.25	

We support all GC Instruments. Visit [www.restek.com/liners](http://www.restek.com/liners) for our full selection of liners.



## Complete Offering to Support EPH Methods

Wide selection to support many state methods.

#### MA EPH Aromatic Hydrocarbon Standard

1,000μg/mL each in methylene chloride, 1mL/ampul  
cat. # 31458 (ea.)

#### MA EPH Surrogate Spike Mix

4,000μg/mL each in acetone, 1mL/ampul  
cat. # 31479 (ea.)

#### MA EPH Matrix Spike Mix

250μg/mL each in acetone, 1mL/ampul  
cat. # 31460 (ea.)

#### MA EPH Aliphatic Hydrocarbon Standard

1,000μg/mL each in hexane, 1mL/ampul  
cat. # 31459 (ea.)

#### MA Fractionation Check Mix

25μg/mL each in hexane, 1mL/ampul  
cat. # 31481 (ea.)

#### 5-α-androstane

2,000μg/mL in methylene chloride, 1mL/ampul  
cat. # 31065 (ea.)

#### Naphthalene-d8

2,000μg/mL in methylene chloride, 1mL/ampul  
cat. # 31043 (ea.)

#### MA Fractionation Surrogate Spike Mix

4,000μg/mL each in hexane, 1mL/ampul  
cat. # 31480 (ea.)

#### 1-Chlorooctadecane Mix

10,000μg/mL in methylene chloride, 1mL/ampul  
cat. # 31098 (ea.)

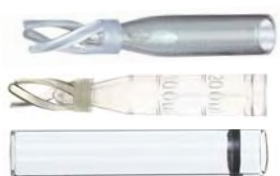
For a complete list of EPH standards visit [www.restek.com/envstandards](http://www.restek.com/envstandards)



## Essential Accessories

### Inserts

for 2.0mL, 11mm Crimp-Top  
& 2.0mL, 9mm Short-Cap,  
Screw-Thread Vials



Description	Material	100-pk.	1000-pk.
50µL Big Mouth Insert w/Bottom Spring	Glass	24513	21782
250µL Big Mouth Insert w/Bottom Spring	Glass	21776	21777
250µL Big Mouth Insert w/Glass Flange (Step Design)*	Glass	24516	21779
350µL Insert, Flat Bottom	Glass	21780	24517
350µL Insert, Flat Bottom w/ID Ring	Glass	24692	24693
250µL Big Mouth Insert w/Bottom Spring	Polypropylene	24518	—
250µL Big Mouth Insert w/Bottom Spring & Graduated Markings	Polypropylene	24518A	—
250µL Big Mouth Insert, Top Flange	Polypropylene	24519	—
250µL Big Mouth Insert, No Spring	Polypropylene	24520	—

### 2.0mL Crimp-Top Glass Vials

12 x 32mm, 11mm



Description	Color	100-pk.	1000-pk.
Vial w/White Graduated Marking Spot	Clear	24383	24384
Vial w/White Graduated Marking Spot	Amber	24385	24386
Vial without Graduated Marking Spot	Clear	21152	21153

### BTO® Septa

9.5mm, 17mm for Thermo Scientific GCs

(usable to 400°C inlet temp.)



Septum Diameter	50-pk./price	100-pk./price
9mm CenterGuide	27104	27105
9.5mm (P/S)	27106	27107
17mm CenterGuide	27116	27117

## Extraction Cells for ASE® Systems

Perfect for EPA Method 3545

- Meets original equipment manufacturer's performance.
- Choose original equipment-equivalent stainless steel, or Siltek® deactivation for improved inertness and extended lifetime.

For complete product listing for ASE® Systems of visit [www.restek.com/ase](http://www.restek.com/ase)



## Validated Silica Tubes for Sample Prep



- Remove matrix interference from EPH extracts.
- Freshly activated to maximize capacity.

**Silica Resprep® SPE Cartridges**  
(EPA SW 846 methods)

3mL/500mg (50-pk.)	6mL/1000mg (30-pk.)
24035	24038

All cartridges are manufactured using high density polypropylene and have polyethylene frits unless otherwise noted.



Find Expert Advice on Restek's **BLOG** including:

- Crude Oil
- Dispersants
- Extractable Petroleum Hydrocarbons
- PAHs
- Oil Contaminated Seafood

Visit [www.restek.com/oil](http://www.restek.com/oil)



# Ethylene Glycol Essentials

## Stabilwax® Columns



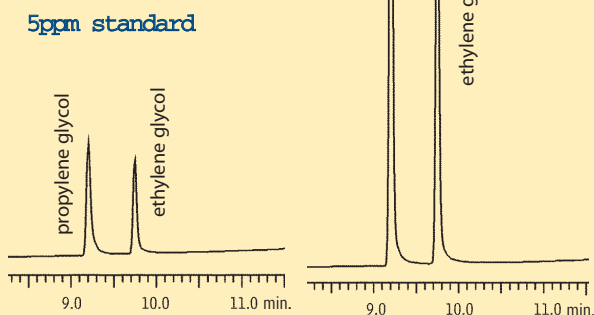
(polar phase; Crossbond® Carbowax® polyethylene glycol)

- General purpose columns for FAMES, flavor compounds, essential oils, solvents, xylene isomers, and US EPA Method 603 (acrolein/acrylonitrile).
- Resistant to oxidative damage.
- Temperature range: 40°C to 260°C maximum operating temperature.

ID	df (μm)	temp. limits	length	cat. #	price
0.53mm	1.00	40 to 240/260°C	30-Meter	10655	

**The Stabilwax® column can easily analyze 5ppm and 25ppm standards.**

Column: 30m, 0.53mm ID, 1.0μm Stabilwax (cat. # 10655); Sample: 1.0μL of ethylene glycol and propylene glycol sample in water.  
For complete conditions visit [www.restek.com](http://www.restek.com) and search for **Application Note #EVAN1248**



## Diethylene & Ethylene Glycol Standards

### Glycerin Standard Mix (3 components)

diethylene glycol	0.5mg/mL	glycerin	20mg/mL
ethylene glycol	0.5mg/mL		
In P&T methanol, 1mL/ampul		cat. # 31891 (ea.)	

### Propylene Glycol Standard Mix (3 components)

diethylene glycol	0.5mg/mL	propylene glycol	20mg/mL
ethylene glycol	0.5mg/mL		
In P&T methanol, 1mL/ampul		cat. # 31892 (ea.)	

### Glycol Internal Standard Mix

2,2,2-Trichloroethanol

10mg/mL in P&T methanol, 1mL/ampul	cat. # 31894 (ea.)
------------------------------------	--------------------

## Inlet Liners

**Drilled Uniliner® with Hole Near Top**



**4.0mm ID Drilled Uniliner® Inlet Liner with Hole Near Top**

ID x OD & Length	qty.	cat.#	price
4.0mm x 6.3mm x 78.5mm	ea.	21054	
4.0mm x 6.3mm x 78.5mm	5-pk.	21055	
4.0mm x 6.3mm x 78.5mm	25-pk.	20998	



## Reliable VOC Monitoring at ppb levels

### SilcoCan® & TO-Can® Air Monitoring Canisters

- Siltek deactivation means no change in VOC concentration—guarantees correct representation of sample taken.
- Variety of options available, including SUMMA can equivalent.
- Standard fittings compatible with all instrumentation and accessories.
- Exclusive manufacturer of 1L spherical canister.
- Repair service available to extend canister life.



#### Canister Options

Sizes	1, 3, 6, 15L
Valves	Parker diaphragm, Swagelok bellows
Interior Coating	Electropolished, Siltek treated
Gauges	3 vacuum/pressure ranges

#### Applications

- Ambient Air (US EPA TO-14A, TO-15, ASTM D5466)
- Indoor Air
- Vapor Intrusion
- Emergency Response



Visit [www.restek.com/air](http://www.restek.com/air) for a full air canister product listing!

## Totally Tedlar!

We are your **RELIABLE** source  
for Tedlar® Sampling Bags.

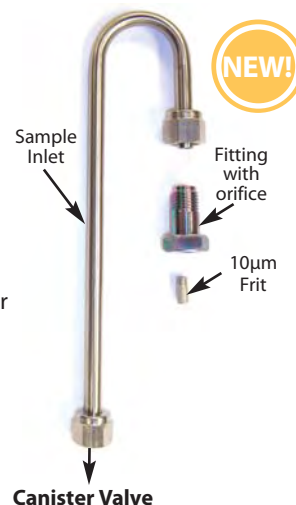
- bag sizes 0.5L - 100L
- polypropylene & stainless steel valve options

[www.restek.com/air](http://www.restek.com/air)



## Grab Sampling Kits

- Use with 1, 3, or 6 L canisters, for qualitative grab air sampling.
- Replaceable frit protects orifice and valve from particulates.
- Variety of orifice sizes, for fast sampling from 5 to 60 minutes.



## Integrated Sampling Kits

- Provide accurate integrated sampling without a sampling pump.
- Siltek® treated components prevent the loss of active compounds.
- Excellent for sampling times from 0.5 hour to 125 hours.





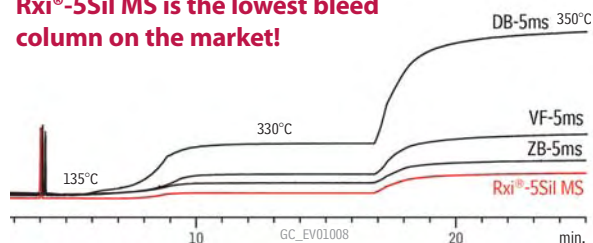
# Running Semivolatile Analysis?

## Rxi®-5Sil MS Columns

### Exceptionally Inert Columns for GC/MS and Trace Level Analyses

- **Low bleed:** minimize noise for lowest detection limits
- **Excellent Inertness:** Highest response for polar, acidic and basic compounds
- **Best Reproducibility:** each column performs the same guaranteed!

**Rxi®-5Sil MS is the lowest bleed column on the market!**



(Crossbond®, selectivity close to 5% diphenyl/95% dimethyl polysiloxane)

ID	df (µm)	temp. limits	length	cat. #
0.18mm	0.18	-60 to 330/350°C	20-Meter	43602
0.18mm	0.36	-60 to 330/350°C	20-Meter	43604
0.25mm	0.25	-60 to 330/350°C	30-Meter	13623
0.25mm	0.25	-60 to 330/350°C	60-Meter	13626
0.25mm	0.50	-60 to 330/350°C	30-Meter	13638
0.32mm	0.50	-60 to 330/350°C	30-Meter	13639

**Try Rxi®-5Sil MS with Integra-Guard®!**

Get the protection without the connection!

**SAVE!**

**Special pricing on multi-packs of 15 & 25!**

**EPA 8270 Internal, Surrogate & Spike Mixes!**



- 8270 Matrix Spike Mix
- SV Internal Standard Mix
- Revised SV Internal Standard Mix
- B/N Surrogate Mix (4/89 SOW)
- Revised B/N Surrogate Mix
- Acid Surrogate Mix (4/89 SOW)
- B/N Matrix Spike Mix

[www.restek.com/8270multipack](http://www.restek.com/8270multipack)

**Mega Mix**  
Time-Saving  
EPA 8270 MegaMix®  
(76 components)  
[www.restek.com/megamix](http://www.restek.com/megamix)



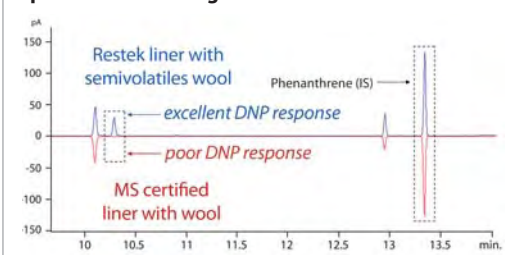
## Inlet Liners with Semivolatiles Wool

for Agilent GCs

### **Inert Sample Path Increases Accuracy for Semivolatiles**

Compliment your inert Rxi®-5SIL MS column by completing the inert sample pathway with Restek liners packed with our new Semivolatiles wool. Inert wool improves accuracy and precision while acting as a physical barrier between your column and non-volatile matrix components. The figure to the right compares a Restek liner packed with Semivolatiles wool with a competitor's liner for the commonly monitored and very active 2,4-dinitrophenol.

**Response of 10ng of 2,4-dinitrophenol compared to phenanthrene using a flame ionization detector.**



### **Inlet Liners w/Semivolatiles Wool**

ID* x OD & Length	qty.	cat.#
<b>4mm Split</b>	ea.	20781-231.1
(4.0mm x 6.3mm x 78.5mm)	5-pk.	20782-231.5
<b>4mm Splitless</b>	ea.	20772-231.1
4.0mm x 6.5mm x 78.5mm	5-pk.	20773-231.5
<b>4mm Gooseneck Splitless</b>	ea.	20798-231.1
4.0mm x 6.5mm x 78.5mm	5-pk.	20799-231.5
<b>4mm Gooseneck Precision Liner</b>		
4.0mm x 6.3mm x 78.5mm	5-pk.	22984-231.5
<b>Low Pressure Drop Precision Liner</b>	ea.	21032-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	21033-231.5
<b>Drilled Uniliner (hole near bottom)</b>	ea.	20756-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	20771-231.5
<b>Drilled Uniliner (hole near top)</b>	ea.	21054-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	21055-231.5

To order new Semivolatiles Wool in additional prepacked liners, add the corresponding suffix number to the liner catalog number.

### **IP Deactivated Liner with Semivolatiles Wool**

each	-231.1
5-pk.	-231.5
25-pk.	-231.25

Additional charges may apply.  
visit [www.restek.com/liners](http://www.restek.com/liners) for a full product listing



**Great Value on Extraction Supplies for ASE® Systems**  
Extraction cells now serialized!  
[www.restek.com/ase](http://www.restek.com/ase)

## Dual Vespel Ring Inlet Seals

**NEVER USE A WASHER AGAIN!**

visit [www.restek.com/dvr](http://www.restek.com/dvr) for more information





# Restek is your Complete Source for Analyzing Pesticides in Dietary Supplements

Decrease costs and increase reproducibility with a QuEChERS approach to analyzing pesticides in dietary supplements.



	PAM 303 Method	QuEChERS + cSPE	Benefits of QuEChERS + cSPE
Solvent used (mL)	1,850	92	20x less solvent; cleaner, greener, & cost-effective
# of Solvents	4	3	
Salt and sorbent used (g)	35	6.6	5x less salt/sorbent
Glassware/lab equipment	<ul style="list-style-type: none"> <li>• Separatory funnel (1L capacity)</li> <li>• Filter apparatus</li> <li>• Florisil column</li> </ul>	<ul style="list-style-type: none"> <li>• Centrifuge</li> <li>• SPE manifold</li> </ul>	Fast, easy batch processing
Manual preparation	<ul style="list-style-type: none"> <li>• Salt solution</li> <li>• Standards</li> <li>• Florisil column</li> </ul>	None—prepackaged salts and cSPE cartridge are ready to use	Highly reproducible; less manual prep means less human error

For complete details, see "Pesticides in Dietary Supplements: Advantages of QuEChERS vs. PAM 303" at [www.restek.com/dietary](http://www.restek.com/dietary)

**Q-sep™**  
innovative chromatography solutions



**Try QuEChERS risk-free today!**

Call 800-356-1688 to request a free sample pack of Q-sep™ QuEChERS tubes.  
(Sample pack orders cannot be placed on line.  
Limit one pack per customer.)

## Q-sep™ 3000 Centrifuge for QuEChERS



Priced to fit your laboratory's budget, the Q-sep™ 3000 Centrifuge is the first centrifuge specifically designed for QuEChERS methodology. This compact, quiet, yet powerful, unit spins at the 3,000g force required by the European method.

For product listing, visit [www.restek.com/quenchers](http://www.restek.com/quenchers)

# Rxi®-5Si1 MS

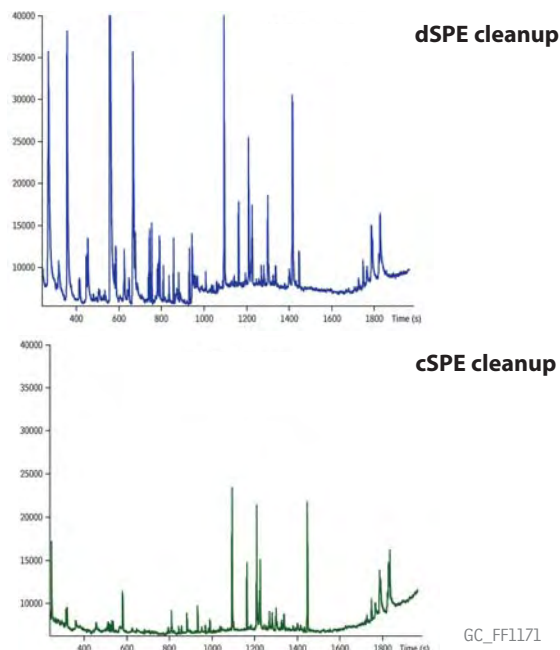
## Exceptionally Inert Columns for GC/MS and Trace Level Analyses

- **Low bleed** for better detection of late eluting pesticides such as Deltamethrin and Azoxystrobin.
- **High Inertness** gives better peak shapes for active pesticides like Methamidophos, Acephate, and Omethoate.
- Engineered to assure **column-to-column reproducibility**.

ID	df (μm)	temp. limits	length	cat. #	price
0.18mm	0.18	-60 to 330/350°C	20-Meter	43602	
0.18mm	0.36	-60 to 330/350°C	20-Meter	43604	
0.25mm	0.25	-60 to 330/350°C	30-Meter	13623	
0.25mm	0.50	-60 to 330/350°C	30-Meter	13638	

For complete conditions, see article "Pesticides in Dietary Supplements: Advantages of QuEChERS vs. PAM 303" at [www.restek.com/dietary](http://www.restek.com/dietary)

QuEChERS extracts of pesticides in dietary supplements benefit from cartridge SPE cleanup, which minimizes matrix interferences by removing more matrix co-extracts than dispersive SPE (XIC m/z 60).



## Ultra Aqueous C18 Columns (USP L1)



Also available in other dimensions

### Physical Characteristics:

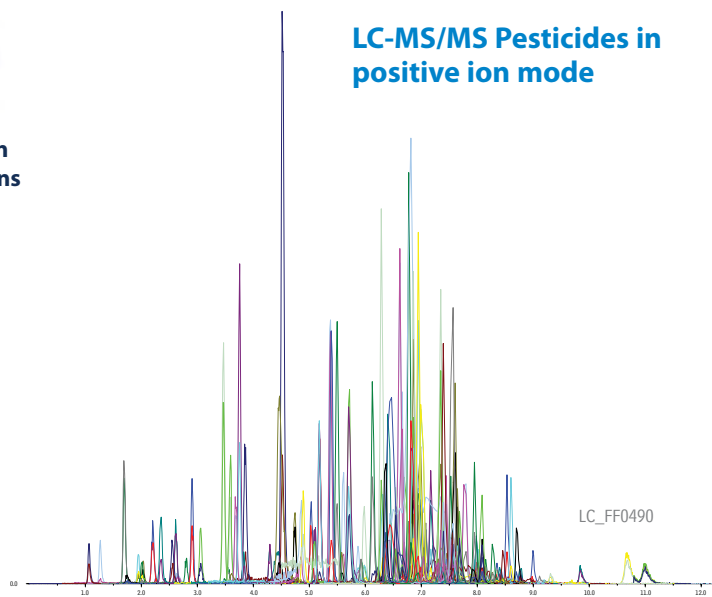
particle size: 3μm or 5μm,  
spherical  
pore size: 100Å  
carbon load: 15%

endcap: no  
pH range: 2.5 to 7.5  
temperature limit: 80°C

Length	1.0mm ID		2.1mm ID	
	cat.#	price	cat.#	price
<b>3μm Columns</b>				
30mm	9178331		9178332	
50mm	9178351		9178352	
100mm	9178311		9178312	
<b>5μm Columns</b>				
30mm	9178531		9178532	
50mm	9178551		9178552	
100mm	9178511		9178512	
150mm	9178561		9178562	
200mm	9178521		9178522	
250mm	9178571		9178572	

More than 280 pesticide residues—including difficult polar species—show excellent peak shape and retention on a 3μm Ultra Aqueous C18 column.

### LC-MS/MS Pesticides in positive ion mode



For complete conditions see Article "Comprehensive Pesticide Residue Analysis by LC/MS/MS Using an Ultra Aqueous C18 column" at [www.restek.com/dietary](http://www.restek.com/dietary)



## Q-sep™ QuEChERS Products

Multi-residue pesticide analysis  
from food and other matrices.



### Introducing New Q-sep™ Extraction Salt Packets!

- Convenient and easy to use.
- Eliminates the need for a second tube to transfer salts.

*Supports AOAC (2007.01) &  
European (EN 15662) QuEChERS  
Methods*

[www.restek.com/quechers](http://www.restek.com/quechers)

# BUY 1, GET 1 FREE!

extraction salt packet products



#### Buy 1, Get 1 free offer applies to the following products:

Description	Material	Methods	qty.	cat#
Q110 Kit	4g MgSO <sub>4</sub> , 1g NaCl, 1g TSCD, 0.5g DHS with 50mL Centrifuge Tube	European EN 15662	50 packets & 50 tubes	26235-408
Q110 Packets	4g MgSO <sub>4</sub> , 1g NaCl, 1g TSCD, 0.5g DHS	European EN 15662	50 packets	26236-408
Q150 Kit	6g MgSO <sub>4</sub> , 1.5g NaOAc, 1g TSCD, 0.5g DHS with 50mL Centrifuge Tube	AOAC 2007.01	50 packets & 50 tubes	26237-408
Q150 Packets	6g MgSO <sub>4</sub> , 1.5g NaOAc, 1g TSCD, 0.5g DHS	AOAC 2007.01	50 packets	26238-408

**Offer valid through October 31, 2010, or while supplies last.** Discount cannot be combined with any other offers. Distributor participation may vary. Prices, if listed, reflect discounted amount. Limit one per customer.

## Q-sep™ Complete Product Offering

**to support AOAC (2007.01)  
& European (EN 15662)  
QuEChERS Methods**

- Comprehensive portfolio of QuEChERS tubes.
- Method-specific internal and QC standards.
- Rxi®-5Sil MS Capillary column
- Ultra Aqueous C18 LC Column.
- Q-sep™ 3000 Centrifuge



## Ultra II<sup>®</sup> LC Columns



Universal ULTRA II<sup>®</sup> columns, available in a wide range of novel phases, ensure optimal performance from your UHPLC and LC/MS systems. You designed your lab for efficiency and productivity; don't settle for less from your consumables. Choose Restek columns and get a better return on your instrument investment.



### Available Phases:

- C18
- C8
- Biphenyl
- PFP Propyl
- Aromax
- Aqueous C18
- Silica
- IBD
- Carbamate
- Quat

### Available Particle Sizes:

- 1.9µm for UHPLC
- 2.2µm for UFLC and RRLC
- 3µm and 5µm for HPLC

More phases coming soon!

[www.restek.com/ultra2](http://www.restek.com/ultra2)

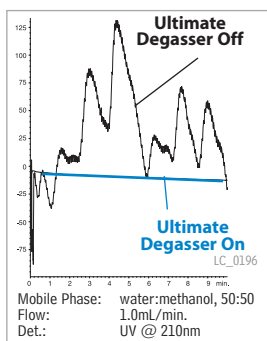
## Mobile Phase Degasser

In-line vacuum degassing

- Prevents oxygen from causing flow rate instability and baseline noise.
- Prevents bubbles from forming in check valves, at connections, or in detector flow cells.
- More effective than sonication or helium sparging.



**Degasy Ultimate Degasser provides highly stable baselines**



### Specifications:

<b>Residual Oxygen<sup>1</sup></b>	0.9ppm
<b>Pressure Loss<sup>1</sup></b>	0.24psi (1.65kPa)
<b>Internal Volume</b>	500µL

<sup>1</sup>At a flow rate of 1mL/min.

<b>Wetted Parts</b>	Teflon AF, PTFE, ETFE, PPS
<b>Max Flow Rate</b>	7mL/min./channel

Description	Voltage	qty.	cat.#	price
Mobile Phase Degasser (4 Channel, 7mL/min./channel)	110V	ea.	25189	
Mobile Phase Degasser (4 Channel, 7mL/min./channel)	220V	ea.	25194	

## Waste Overflow Indicator for HPLC Systems

- Audible alarm instantly alerts user, preventing overflow.
- Compact, battery-operated unit.

**Restek Waste Overflow Indicator will help to keep your mobile phase waste where it belongs—in the waste container!**



Description	qty.	cat.#	price
Waste Overflow Indicator for HPLC Systems	kit	26543	
Replacement AA Battery for the Waste Overflow Indicator	ea.	26544	
Replacement AA Batteries for the Waste Overflow Indicator	3-pk.	26545	

## Universal 10-32 PEEK™ Column Connectors and Plugs

Universal PEEK™ Connectors allow easy installation of all 1/16-inch tubing, including stainless steel.



Description	qty.	cat.#	price
PEEK Column Connector (beige, round body)	10-pk.	25015	
PEEK Column Plug (black)	10-pk.	25016	
PEEK Fingertight Fittings (blue, flat-sided)	10-pk.	25324	



# \$500 OFF



Limited-time offer.  
**SAVE TODAY!**

## GAS GENERATORS FROM RESTEK

Affordable, Reliable, and Safe  
*Save on Hydrogen, Zero Air, and Nitrogen Generators  
...and FID Gas Stations too!*

Visit [www.restek.com/gas](http://www.restek.com/gas) for all the details



Swagelok® Brass Fittings Kit

## Swagelok® Stainless Steel & Brass Fitting kits

Description	qty.	cat.#
Swagelok Fitting Kit, Stainless Steel	kit	23197

Description	qty.	cat.#
Swagelok Fitting Kit, Brass	kit	23141

Visit us at [www.restek.com](http://www.restek.com) for  
a complete line of Swagelok® fittings!

## Reduce Line Pressure with an Ultra High Purity Line Regulator

- Chrome-plated brass.
- Reduce line pressure by 20psig or more.



Fitting	Outlet Pressure	Outlet Gauge	qty.	cat.#
1/4" female NPT ports*	0-50psig (0-345kPa)	30" - 0 to 100psig (0-689kPa)	ea.	21666
1/4" female NPT ports*	0-100psig (0-689kPa)	30" - 0 to 200psig (0-1379kPa)	ea.	22452

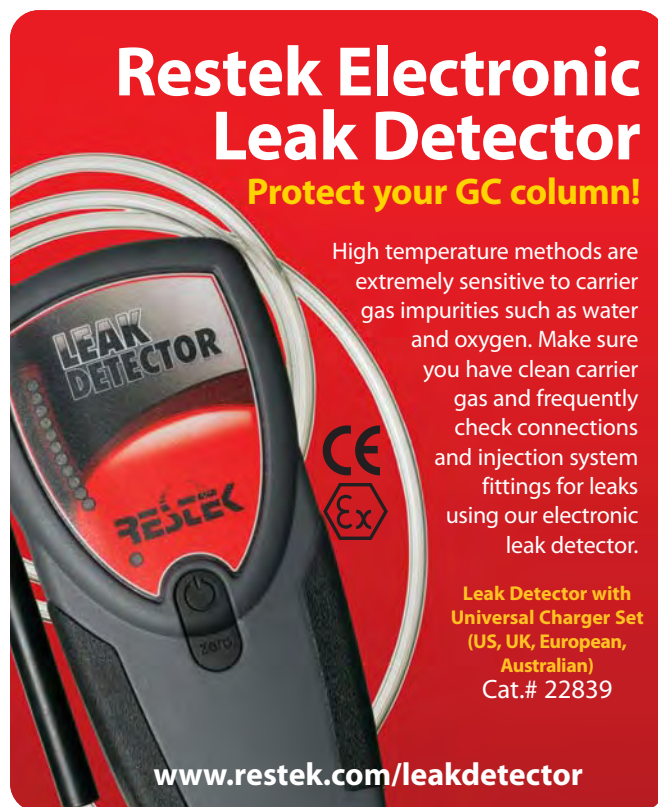
\*Order appropriate male connector, pipe-to-tube fittings.

## Restek Electronic Leak Detector

**Protect your GC column!**

High temperature methods are extremely sensitive to carrier gas impurities such as water and oxygen. Make sure you have clean carrier gas and frequently check connections and injection system fittings for leaks using our electronic leak detector.

**Leak Detector with Universal Charger Set**  
(US, UK, European, Australian)  
Cat.# 22839



[www.restek.com/leakdetector](http://www.restek.com/leakdetector)

## Super-Clean Gas Filter and Base Plate Kit

**FREE Base Plate**  
with purchase of 2 triple filters

Description	qty.	cat.#
Restek Exclusive Fuel Gas Filter Kit: includes 2 fuel gas filters & free base plate	kit	20529-409

**Offer valid through Dec. 31, 2010.**  
**Cannot be combined with other offers or discounts.**



13



Finally! A high-temperature stable 50% phenyl phase that adds accuracy and reliability to your trace analysis!

# Rxi®-17Sil MS Columns

(midpolarity silarylene phase; similar to 50% diphenyl methyl polysiloxane)

- Temperature stable up to 360°C: lowest Bleed 50% phenyl type phase.
- Rxi® technology guarantees symmetrical peaks: most accurate trace analysis for wide range of analytes.
- Also in 0.1 and 0.15mm ID columns available for GCxGC.

NEW!



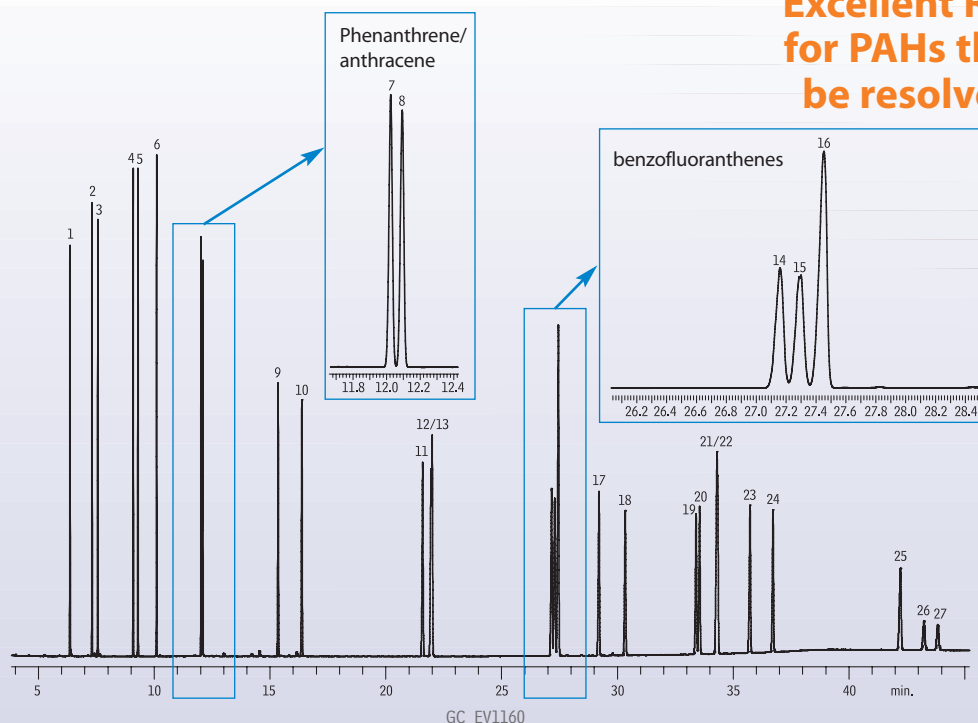
ID	df (μm)	temp. limits	length	qty.	cat. #	price
0.18mm	0.18μm	40 to 340/360°C	20m	ea.	14102	
0.18mm	0.36μm	40 to 340/360°C	20m	ea.	14111	
0.25mm	0.25μm	40 to 340/360°C	15m	ea.	14120	
0.25mm	0.25μm	40 to 340/360°C	30m	ea.	14123	
0.25mm	0.25μm	40 to 340/360°C	60m	ea.	14126	
0.32mm	0.25μm	40 to 340/360°C	15m	ea.	14121	
0.32mm	0.25μm	40 to 340/360°C	30m	ea.	14124	

## similar phases

DB-17ms, VF-17ms, BPX-50, DB-EUPAH

## Polycyclic Aromatic Hydrocarbons on Rxi®-17Sil MS

**Excellent Resolution for PAHs that cannot be resolved by MS**



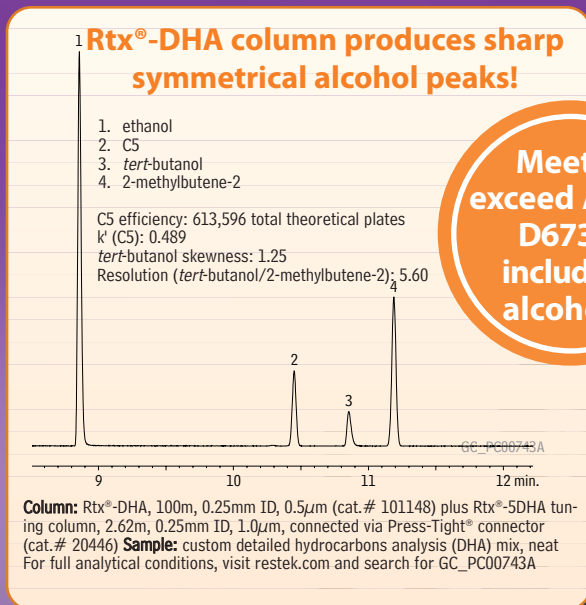
1. Naphthalene
2. 2-Methylnaphthalene
3. 1-Methylnaphthalene
4. Acenaphthylene
5. Acenaphthene
6. Fluorene
7. Phenanthrene
8. Anthracene
9. Fluoranthene
10. Pyrene
11. Benz(a)anthracene
12. Chrysene
13. Triphenylene
14. Benzo(b)fluoranthene
15. Benzo(k)fluoranthene
16. Benzo(j)fluoranthene
17. Benzo(a)pyrene
18. 3-Methylcholanthrene
19. Dibenz(a,h)acridine
20. Dibenz(a,i)acridine
21. Indeno(1,2,3-cd)pyrene
22. Dibenz(a,h)anthracene
23. Benzo(ghi)perylene
24. 7H-Dibenzo(c,g)carbazole
25. Dibenzo(a,e)pyrene
26. Dibenzo(a,i)pyrene
27. Dibenzo(a,h)pyrene

# DHA analysis: Trouble with tailing alcohol peaks is over...

## Rtx®-DHA

- Sharp alcohol peaks: accurate data
- Each column tested to ASTM 6730 specifications
- **Guaranteed Performance: Temperature ranges up to 300°C for elution of higher hydrocarbons.**

Restek developed a unique deactivation technology, that makes alcohols elute as sharp peaks in detailed hydrocarbon analysis, as published by ASTM D6730. Columns are stable up to 300°C and are extremely reproducible. Restek is the ONLY company that individually tests for ASTM specifications.



**Meet & exceed ASTM D6730, including alcohols!**

### Rtx®-DHA Columns (fused silica)

(Crossbond® 100% dimethyl polysiloxane—optimized for hydrocarbon analysis)

ID	df	temp. limits	length	qty.	cat. #	price
0.20mm	0.50µm	-60 to 300/340°C	50m	ea.	10147	
0.25mm	0.50µm	-60 to 300/340°C	100m	ea.	10148	
0.25mm	1.00µm	-60 to 300/340°C	150m	ea.	10149	

### Rtx®-5 DHA Tuning Column (fused silica)

(Crossbond® 5% diphenyl/95% dimethyl polysiloxane—optimized for hydrocarbon analysis)

ID	df	temp. limits	length	qty.	cat. #	price
0.25mm	1.00µm	-60 to 340°C	5m	ea.	10165	

## DHA Standards

### Oxy Set-Up Blend (30 components)

2mL prescored ampul cat. # 33034 (ea.)

### DHA Paraffins Mix (11 components)

Neat, 0.1mL in Autosampler Vial cat. # 30713 (ea.)

Neat, 0.1mL in Vial with Mininert Valve cat. # 30714 (ea.)

### DHA Isoparaffins Mix (34 components)

Neat, 0.1mL in Autosampler Vial cat. # 30715 (ea.)

Neat, 0.1mL in Vial with Mininert Valve cat. # 30716 (ea.)

### DHA PIANO Blend (136 components)

Neat, 0.1mL in Autosampler Vial cat. # 30712 (ea.)

Neat, 0.1mL in Vial with Mininert Valve cat. # 30709 (ea.)

### DHA Aromatics Mix (38 components)

Neat, 0.1mL in Autosampler Vial cat. # 30717 (ea.)

Neat, 0.1mL in Vial with Mininert Valve cat. # 30718 (ea.)

### DHA Naphthenes Mix (27 components)

Neat, 0.1mL in Autosampler Vial cat. # 30719 (ea.)

Neat, 0.1mL in Vial with Mininert Valve cat. # 30720 (ea.)

### DHA Olefins Mix (26 components)

Neat, 0.1mL in Autosampler Vial cat. # 30721 (ea.)

Neat, 0.1mL in Vial with Mininert Valve cat. # 30722 (ea.)

### DHA PONA VI Mix (426 components)

Neat, 0.1mL in Autosampler Vial cat. # 30723 (ea.)

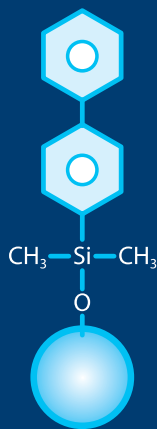
Neat, 0.1mL in Vial with Mininert Valve cat. # 30724 (ea.)

# Biphenyl

## Next Generation of Phenyl Columns

- Resolve a wider range of compound chemistries compared to a C18 or phenyl column.
- Easy separations with methanolic mobile phases—no acetonitrile needed.
- Perfect for aromatics including drugs of abuse, pharmaceuticals, metabolites and more.
- Enhanced and alternate selectivity—ideal for method development and column switching.

Ultra II<sup>®</sup>  
LC Columns



Biphenyl



Go to:  
[www.restek/biphenyl](http://www.restek/biphenyl)  
for more information

**RESTEK**

ISO 9001:2008  
cert.# FM80397

Lit. Cat.# GNES1220-INT  
2010 v.4

© 2010 Restek Corporation.

Coming Soon...



## QuEChERS Extraction Salt Packets

[www.restek.com/quechers](http://www.restek.com/quechers)



## Totally Tedlar!

We are your **RELIABLE** source  
for Tedlar® Sampling Bags.

No need to evaluate alternatives!

- bag sizes 0.5L - 100L
- polypropylene & stainless steel valve options

[www.restek.com/air](http://www.restek.com/air)



Subscribe online!  
[www.restek.com/essentials](http://www.restek.com/essentials)

## What's New!

Q-Sep™ Extraction Salt Packets .....	2
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EPH Standards .....	6
Rxi®-624 Sil MS .....	8
Resprep 6-port Disk Manifold Lid. ...	13

## Great Savings!

Syringe Filters .....	2
FREE Base Plate .....	7
Hamilton Syringes .....	14
Gas Generators .....	15



## Extraction Cells and Replacement Parts for ASE® Systems

### Parts for ASE® Systems available:

**Autoseal Tip Assembly** for ASE® 200 Systems  
**Diatomaceous Earth**  
**Extraction Cell Parts** for ASE® 200 Systems  
**Extraction Cell Parts** for ASE® 300/100 Systems  
**Filters** for ASE® 200 Extraction Cells, 20mm  
**Filters** for ASE® 300/100 Extraction Cells, 30mm  
**PEEK™ Washers** for ASE® 200 Systems  
**PEEK™ Washers** for ASE® 300/100 Systems  
**Resprep™ Tools** for ASE® Systems  
**Retaining Ring Pliers** for ASE® 100/200/300 Systems  
**Sample Collection Bottles** for ASE® 300/100 Systems, 250mL  
**Sample Collection Vials** for ASE® 200 Systems, 60mL  
**NEW! Tubing Assembly** for ASE® 200 Systems  
**Valves** for ASE® 100/200/300 Systems

**Great Prices &  
Quick Delivery!**

**NEW Extraction cells  
now serialized!**



Coming Soon...

# Q-sep™

## QuEChERS Extraction Salt Packets



[www.restek.com/quechers](http://www.restek.com/quechers)

## Syringe Filters with Luer Lock Inlet



100 pack

### Cut costs, not corners!

Top quality filters at lower costs than even the discounted prices of other manufacturers!  
Compare our quality with your current brand using our

**FREE no risk sample packs.**

**Contact your local distributor today!**

Visit [www.restek.com/filters](http://www.restek.com/filters) for complete product listing and 12 reasons to buy Restek syringe filters

# Ethylene Glycol Essentials

## Stabilwax® Columns



(polar phase; Crossbond® Carbowax® polyethylene glycol)

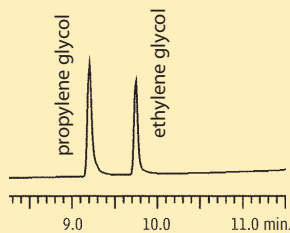
- General purpose columns for FAMES, flavor compounds, essential oils, solvents, xylene isomers, and US EPA Method 603 (acrolein/acrylonitrile).
- Resistant to oxidative damage.
- Temperature range: 40°C to 260°C maximum operating temperature.

ID	df (μm)	temp. limits	length	cat. #
0.53mm	1.00	40 to 240/260°C	30-Meter	10655

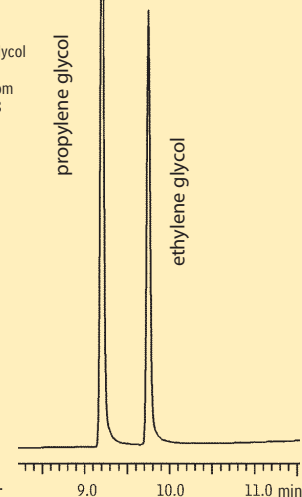
The Stabilwax® column can easily analyze 5ppm and 25ppm standards.

Column: 30m, 0.53mm ID, 1.0μm Stabilwax (cat. # 10655); Sample: 1.0μL of ethylene glycol and propylene glycol sample in water.  
For complete conditions visit [www.restek.com](http://www.restek.com) and search for **Application Note #EVAN1248**

5ppm standard



25ppm standard



## Diethylene & Ethylene Glycol Standards

### Glycerin Standard Mix (3 components)

diethylene glycol	0.5mg/mL	glycerin	20mg/mL
ethylene glycol	0.5mg/mL		
In P&T methanol, 1mL/ampul			
cat. # 31891 (ea.)			

### Propylene Glycol Standard Mix (3 components)

diethylene glycol	0.5mg/mL	propylene glycol	20mg/mL
ethylene glycol	0.5mg/mL		
In P&T methanol, 1mL/ampul			
cat. # 31892 (ea.)			

### Sorbitol Standard Mix (2 components)

diethylene glycol	ethylene glycol
0.8mg/mL each in acetone:water (90:10), 1mL/ampul	
cat. # 31893 (ea.)	

### Glycol Internal Standard Mix

2,2,2-Trichloroethanol

10mg/mL in P&T methanol, 1mL/ampul	cat. # 31894 (ea.)
------------------------------------	--------------------

## Inlet Liners

Drilled Uniliner® with Hole Near Top



4.0mm ID Drilled Uniliner® Inlet Liner with Hole Near Top

ID x OD & Length	qty.	cat.#
4.0mm x 6.3mm x 78.5mm	ea.	21054
4.0mm x 6.3mm x 78.5mm	5-pk.	21055
4.0mm x 6.3mm x 78.5mm	25-pk.	20998



# Restek has your Air Sampling

## Air Canisters for VOC Monitoring

### SilcoCan® & TO-Can® Air Monitoring Canisters

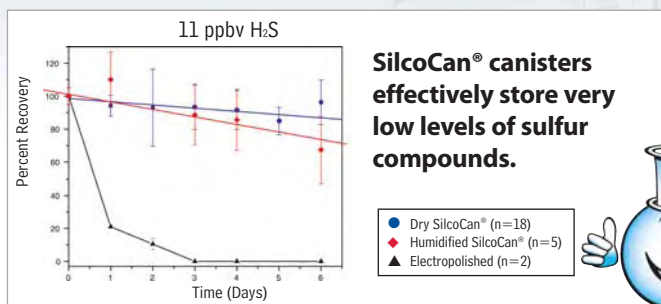
- Siltek deactivation means no change in VOC concentration—guarantees correct representation of sample taken.
- Variety of options available, including SUMMA can equivalent.
- Standard fittings compatible with all instrumentation and accessories.
- Exclusive manufacturer of 1L spherical canister.
- Repair service available to extend canister life.

#### Canister Options

Sizes	1, 3, 6, 15L
Valves	Parker diaphragm, Swagelok bellows
Interior Coating	Electropolished, Siltek treated
Gauges	3 vacuum/pressure ranges

#### Applications

- Ambient Air (US EPA TO-14A, TO-15, ASTM D5466)
- Indoor Air
- Vapor Intrusion
- Emergency Response



Visit [www.restek.com/air](http://www.restek.com/air) for a full air canister product listing!

## Totally Tedlar!

We are your **RELIABLE** source for Tedlar® Sampling Bags.

No need to evaluate alternatives!

- bag sizes 0.5L - 100L
- polypropylene & stainless steel valve options

[www.restek.com/air](http://www.restek.com/air)



## Vacuum Bag Sampler

Fill Tedlar® Bags without pump contamination!

- Cost-effective alternative for whole air sampling.
- Light weight and easy to use.
- Vacuum sampler fills bag quickly, without sample passing through pump.
- Large selection of Tedlar® bag sizes available, as well as stainless steel valve option.



# Air Canister Accessories

## Integrated Sampling Kits

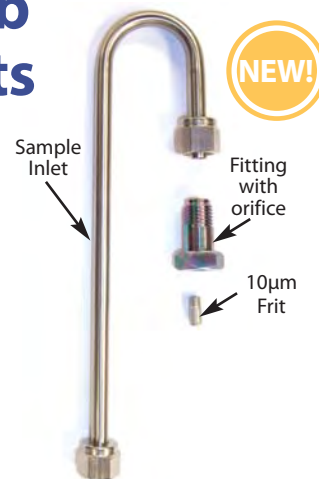
- Provide accurate integrated sampling without a sampling pump.
- Siltek® treated components prevent the loss of active compounds.
- Excellent for sampling times from 0.5 hour to 125 hours.



## Canister Grab Sampling Kits



Assembled  
kit on canister



Unassembled  
kit components

- Use with 1, 3, or 6 L canisters, for qualitative grab air sampling.
- 1/4" compression fitting connects directly to canister valve inlet.
- Replaceable frit protects orifice and valve from particulates.
- Variety of orifice sizes, for fast sampling from 5 to 60 minutes.
- Individual replacement components available.

## 2nd Source TO-14A/TO-15 Gas Calibration Standards

- Standards from TWO manufacturers provides second source standards on one order.
- 12 month stability in transportable cylinders.
- Drop shipped for fast delivery and maximum shelf life.



A. Spectra 104L  
Cylinders

B. Scotty 110L Cylinders  
(Pi-marked Cylinders  
for EU Regulations)



Regulators  
available too!

For more available gas standards,  
visit [www.restek.com/air](http://www.restek.com/air)

NEW!

## Air Canister Tripod

For colocated ambient air sampling



- Lightweight (9 lbs.) and compact, for easy storage and transport.
- Extends from 6' to 9' high.
- Large base provides enhanced stability, without additional supports.
- Sturdy, rugged metal design, for outdoor sampling and transport. Large base provides enhanced stability, without additional supports.

Description	qty.	cat.#
Air Canister Tripod	ea.	24151



## Complete Offering to Support EPH Methods

Wide selection to support many state methods.

### MA EPH Aromatic Hydrocarbon Standard

1,000 $\mu$ g/mL each in methylene chloride, 1mL/ampul  
cat. # 31458 (ea.)

### MA EPH Surrogate Spike Mix

4,000 $\mu$ g/mL each in acetone, 1mL/ampul  
cat. # 31479 (ea.)

### MA EPH Matrix Spike Mix

250 $\mu$ g/mL each in acetone, 1mL/ampul  
cat. # 31460 (ea.)

### MA EPH Aliphatic Hydrocarbon Standard

1,000 $\mu$ g/mL each in hexane, 1mL/ampul  
cat. # 31459 (ea.)

### MA Fractionation Check Mix

25 $\mu$ g/mL each in hexane, 1mL/ampul  
cat. # 31481 (ea.)

### 5- $\alpha$ -androstande

2,000 $\mu$ g/mL in methylene chloride, 1mL/ampul  
cat. # 31065 (ea.)

### Naphthalene-d8

2,000 $\mu$ g/mL in methylene chloride, 1mL/ampul  
cat. # 31043 (ea.)

### MA Fractionation Surrogate Spike Mix

4,000 $\mu$ g/mL each in hexane, 1mL/ampul  
cat. # 31480 (ea.)

### 1-Chlorooctadecane Mix

10,000 $\mu$ g/mL in methylene chloride, 1mL/ampul  
cat. # 31098 (ea.)

For a complete list of EPH standards visit  
[www.restek.com/envstandards](http://www.restek.com/envstandards)

Save Time with prepacked sample prep cartridges!

## EPH Tubes

- Superior fractionation of extractable petroleum hydrocarbons.
- Easier quantification; lower background & less interference.
- Reliable, accurate, and reproducible results.
- Unique packaging designed for convenience and storage stability.

Tube Volume,  
Bed Weight

qty.

cat.#

20mL, 5g

20-pk.

26065

### Get More!

Search for Advantage  
580135 (p. 14-15) at  
[www.restek.com](http://www.restek.com)



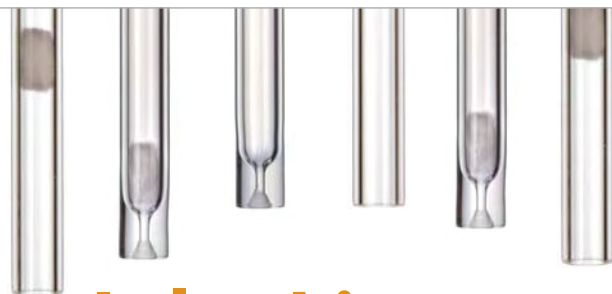
## Rxi®-5Sil MS

**Exceptionally Inert Columns for GC/MS and Trace Level Analyses**

- **Low bleed** for lower detection limits of late eluting PAHs.
- **Excellent resolution** of benzo(b)fluoranthene and benzo(k)fluoranthene
- Engineered to assure **column-to-column reproducibility**.

ID	df (µm)	temp. limits	length	cat. #
0.18mm	0.18	-60 to 330/350°C	20-Meter	43602
0.18mm	0.36	-60 to 330/350°C	20-Meter	43604
0.25mm	0.25	-60 to 330/350°C	30-Meter	13623
0.25mm	0.50	-60 to 330/350°C	30-Meter	13638

**Try Rxi®-5Sil MS with Integra-Guard®!**  
Get the protection without the connection!



## Inlet Liners

the Perfect Choice for EPH Analysis

**A Single Gooseneck Liner with our NEW Semivolatiles Wool for Splitless Applications.**

**4.0mm ID Single Gooseneck Inlet Liner with Wool**

qty.	cat.#
ea.	20798-231.1
5-pk.	20799-231.5
25-pk.	20800-231.25



## 2.0mL Crimp-top Vials & Caps

Restek Recommended  
for EPH Analysis

**2.0mL Crimp-Top Vials, 12 x 32mm, 11mm**

Description	100-pk.	1000-pk.
Clear Glass Vial w/White Graduated Marking Spot	24383	24384
Amber Glass Vial w/White Graduated Marking Spot	24385	24386
Clear Glass Vial without Graduated Marking Spot	21152	21153

**2.0mL, 11mm Aluminum Crimp Seals with Septa**

Seal Color	Septa Material	100-pk.	1000-pk.
Silver	PTFE/Natural Rubber	21174	21175
Silver	PTFE/Silicone	24359	24360

**FREE Base Plate**  
with purchase of 2 triple filters

*Get Super-Clean!*

**Super-Clean Gas Filter & Base Plate Kit**



Description	qty.	cat.#
Restek Exclusive Triple Filter Kit	kit	22859-409

**Offer valid through Dec. 31, 2010.**  
Cannot be combined with other offers or discounts.



# NEW! Rxi<sup>®</sup>-624Si MS

## The **Go To** GC Column for Fast, Effective Volatile Impurities Method Development

### **Go To...**the right column first

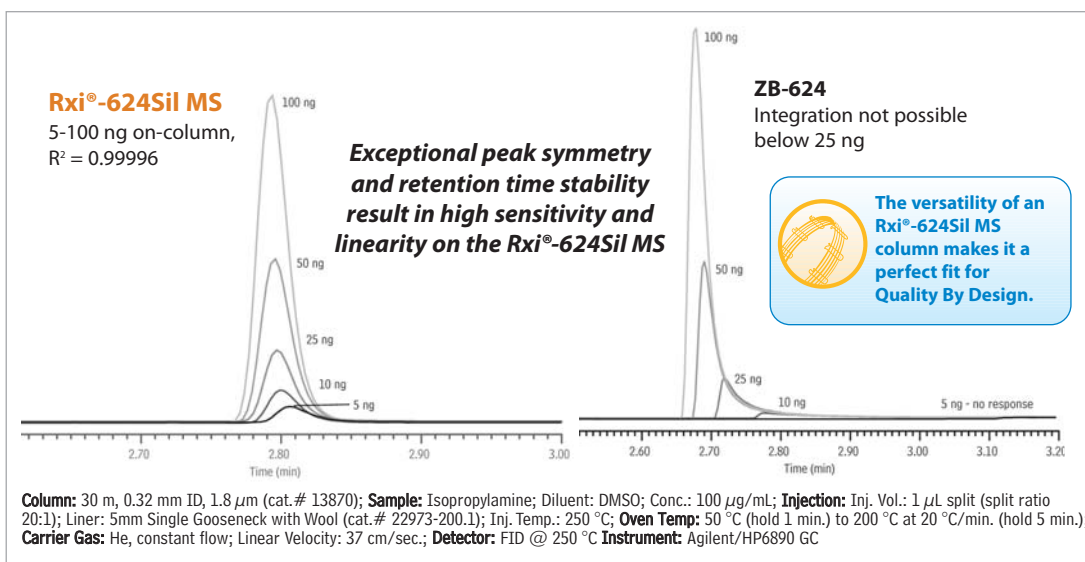
For better retention of polar analytes and improved accuracy, peak shape, and response for active compounds.

### **Go To...**mass spec directly

With the lowest bleed 624 column available; stable up to 320 °C, for easy transfer of methods to GC/MS.

### **Go To...**the next batch faster

With the best-in-class G43 for USP methods.



### Rxi<sup>®</sup>-624Si MS Columns (fused silica)

- Low bleed, high thermal stability column—maximum temperatures up to 320°C.
- Inert—excellent peak shape for a wide range of compounds, including acidic and basic compounds.
- Selective—highly selective for residual solvents, great choice for USP<467>.
- Manufactured for column-to-column reproducibility—well-suited for validated methods.

(mid polarity Crossbond<sup>®</sup> silarylene phase; equivalent to 6% cyanopropylphenyl/94% dimethyl polysiloxane)

ID	df ( $\mu$ m)	temp. limits	20-Meter	30-Meter	60-Meter
0.18mm	1.00	-20 to 300/320°C	13865		
0.25mm	1.40	-20 to 300/320°C		13868	
0.32mm	1.80	-20 to 300/320°C		13870	13872
0.53mm	3.00	-20 to 280/300°C		13871	



## Not all "624s" are Equivalent

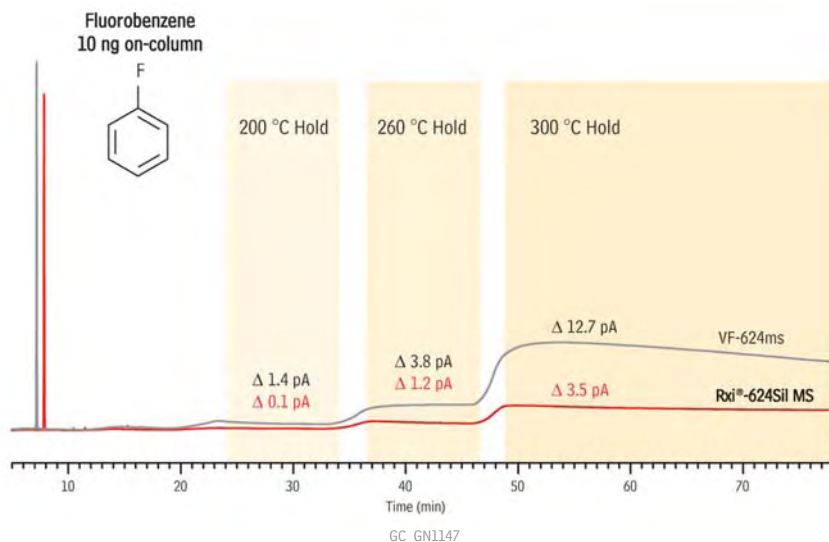
### High thermal stability Rxi®-624Sil MS columns offer:

- Longer column lifetime.
- Improved method reproducibility.
- GC/MS compatibility.
- Stable baseline.



Ideal for use  
with FID and MS  
detectors.

Column	Manufacturer	Maximum Programmable Temperature
Rxi®-624Sil MS	Restek	320 °C
VF-624ms	Varian	300 °C
DB-624	Agilent J&W	260 °C
ZB-624	Phenomenex	260 °C



Couple the right column  
with the right liner. Visit  
[www.restek.com/liners](http://www.restek.com/liners)  
for a complete selection.



### Custom Residual Solvent Mixes

A perfect match for validated residual  
solvent methods

Save time and money with mixes prepared to  
your specific solvent set and concentrations. The  
more you buy the less you pay per ampul!

Easy Online Order Form!  
[www.restek.com/customusp](http://www.restek.com/customusp)



### Get More!

Request flyer  
PHFL1245  
for more  
information on  
Rxi®-624Sil MS  
Columns



Make the Switch  
to Rxi® columns!  
[www.restek.com/rxi](http://www.restek.com/rxi)



## Accelerate development

Strategic choices aren't just about instruments. When you need to get to market faster, you need ground-breaking column chemistries. Restek columns are designed specifically for highly selective discovery and DMPK studies. Universal ULTRA II® columns, available in a wide range of novel phases, ensure optimal performance from your UHPLC and LC/MS systems. You designed your lab for efficiency and productivity; don't settle for less from your consumables. Choose Restek columns and get a better return on your instrument investment.

- Innovative column chemistries
- Precise analytical standards
- Quality LC & GC consumables
- Expert technical support



**RESTEK**  
Chromatography Products

**Ultra II®**  
LC Columns



# Mobile Phase Management 101

## Hub-Cap 4 Liter Bottle Tops

Quick, easy & reusable, Hub-Cap bottle tops keep your mobile phase lines in the reservoirs without using messy tape, film, or foil.



Description	qty.	cat.#
Hub-Cap (assembly of the bottle cap and plug)	kit	26541
Hub-Cap Multi-pack	3-pk.	26542

## Reduce Solvent Waste with the Last Drop Filter

Use Restek's Last Drop Filter to draw 98% of the mobile phase without drawing air into the system. Conventional methods usually leave 10% of your mobile phase behind, which directly affecting your productivity and costs.



Description	qty.	cat.#
Last Drop Filter, 2 $\mu$ m	ea.	25314
Last Drop Filter, 10 $\mu$ m	ea.	25315

## Hub-Cap Filter Kit

Transfer and filter mobile phase in a single step!

Kit includes: bottle adapter, bottle adapter nut, filter inlet cap, grid support, vacuum hose barb, tube compression fitting, 47mm grid, 47mm 0.22 $\mu$ m filter membrane, 47mm 0.45 $\mu$ m filter membrane, 1/4" OD x 1/8" ID ultra chemical resistant, Teflon® FEP lined Tygon® tubing (3'), 6" x 6" box with shrink wrap insert.



Description	qty.	cat.#
Hub-Cap Filter Kit for 4L or Wheaton bottles	kit	26395
<b>Replacement Membrane Filters</b>		<b>qty.</b> <b>cat.#</b>
Polypropylene Membrane Filters, 47mm, 0.45 $\mu$ m	100-pk.	26396
Polypropylene Membrane Filters, 47mm, 0.22 $\mu$ m	100-pk.	26397
Nylon Membrane Filters, 47mm, 0.45 $\mu$ m	100-pk.	26398
Nylon Membrane Filters, 47mm, 0.22 $\mu$ m	100-pk.	26399

## Avoid messy pooling around mobile phase waste containers with our Waste Overflow Indicator for HPLC Systems

- Audible alarm instantly alerts user, preventing overflow.
- Compact, battery-operated unit. The new Restek Waste Overflow Indicator will help to keep your mobile phase waste where it belongs—in the waste container!

restek  
innovation!



Bottle not included.

Description	qty.	cat.#
Waste Overflow Indicator for HPLC Systems	kit	26543
Replacement AA Battery for the Waste Overflow Indicator	ea.	26544
Replacement AA Batteries for the Waste Overflow Indicator	3-pk.	26545

# Drinking Water Analysis



## Rxi-5Sil MS

### Exceptionally Inert Columns for GC/MS and Trace Level Analyses

- **Low bleed** for lower detection limits of late eluting PAHs.
- **Excellent resolution** of benzo(b)fluoranthene and benzo(k)fluoranthene
- Engineered to assure **column-to-column reproducibility**.

ID	df (μm)	temp. limits	length	cat. #
0.18mm	0.18	-60 to 330/350°C	20-Meter	43602
0.18mm	0.36	-60 to 330/350°C	20-Meter	43604
0.25mm	0.25	-60 to 330/350°C	30-Meter	13623
0.25mm	0.50	-60 to 330/350°C	30-Meter	13638

Try **Rxi®-5Sil MS with Integra-Guard®!**  
Get the protection without the connection!



Find Out More about Rxi® 3-in-1  
Technology at [www.restek.com/rxi](http://www.restek.com/rxi)

### Standards for Drinking Water Methods



Full standards offering  
to support safe drinking  
water methods.

[www.restek.com/envstandards](http://www.restek.com/envstandards)



### Super Septa!

- Precision molded.
- Preconditioned and ready to use.
- Packaged in precleaned jars.

**Restek Thermolite® Septa**

Usable to 340°C inlet temperature.



Visit [www.restek.com/septa](http://www.restek.com/septa) for a  
complete listing of septa available.

## Diskcover-47 Reservoir\*

The Diskcover-47 open-top reservoir allows you to pour up to 125mL of sample directly onto the filter disk holder. It easily installs on top of the Diskcover-47 extraction disk holder.



Description	qty.	cat.#
Diskcover-47 Reservoir	ea.	24029
Diskcover-47 Reservoir	6-pk.	24030

\*Must be used with the Diskcover-47 extraction disk holder.

## Diskcover-47 Extraction Disk Holder



- Compatible with most vacuum manifold systems that accept 1/8-inch male luer fittings.
- Sample can be automatically introduced via 1/8-inch Teflon® tubing or from the optional Diskcover-47 reservoir.

Description	qty.	cat.#
Diskcover-47 Extraction Disk Holder	ea.	24020
Diskcover-47 Extraction Disk Holder	6-pk.	24021

## Resprep® 6-Port Disk Manifold Lid



**NEW!**

**Unit ready for use**  
(glass vacuum chamber not included)

- Low cost option for disk extraction; no need to buy extra glass vacuum chambers.
- Doubles sample capacity—holds 6 disks, compared to standard 12-port manifolds which only hold 3.
- Individual vacuum control for each port improves reproducibility.
- Inert Teflon® sample guides reduce cross-contamination and carryover.
- Fits standard 3 3/4" x 7 1/2" glass vacuum chamber.

Description	qty.	cat.#
Resprep 6-Port Disk Manifold Lid*	kit	25992

\*Vacuum chamber not included.

## Resprep®-C18 and Resprep®-C8 SPE Disks



- Glass fiber disks embedded with C18 or C8 bonded silica.
- Extract semivolatile organic compounds.
- Deep-pore design reduces clogging and allows faster flow rates.
- Meet requirements for EPA Methods 525.1, 506, 550.1, and 549.1.
- Lower cost than Teflon® disks.

Description	Porosity	qty.	cat.#
Resprep-C8	47mm	24-pk.	24048
Resprep-C18	47mm	20-pk.	24004

## Resprep® Sample Delivery System

Use the Resprep® Sample Delivery System to transfer large volumes of low viscosity samples directly from a bottle to a solid phase extraction cartridge or disk on a vacuum manifold system for extraction or cleanup. Each unit consists of 6 transfer lines with a stainless steel weight on one end, and a color-coded screw fitting and polyethylene terephthalate (PET) adapter on the opposite end.



Description	qty.	cat.#
Resprep Sample Delivery System	6-pk.	26250



# Eliminate Septum Troubles

Merlin Microseal Septa Kits for Agilent, Varian & PerkinElmer GCs



## Merlin Microseal Septa for Agilent GCs

Microseal High-Pressure Septa, 400 Series (100psi)	Merlin #	Similar to Agilent#	cat.#
Standard kit (nut, 2 septa)	404	Not offered	22810
Starter kit (nut, 1 septum)	405	5182-3442	22811
Nut kit (1 nut, fits 300 & 400 series septa)	403	5182-3445	22809
High-pressure replacement septum (1 septum)	410	5182-3444	22812

Microseal Septa, 300 Series (30psi)	Merlin #	Similar to Agilent#	cat.#
Standard kit (nut, 2 septa)	304	5181-8833	22813
Starter kit (nut, 1 septum)	305	5181-8816	22814
Microseal replacement septum (1 septum)	310	5181-8815	22815

## Merlin Microseal Septa for PerkinElmer and Varian GCs

Microseal Septa for PerkinElmer & Varian GCs	Merlin#	Similar to	cat.#
Varian 1078/1079 Kit (septum cap adapter, O-ring, nut, septum)	21-11w	—	22779
Varian 1177 Kit (septum cap adapter, O-ring, nut, spacer ring, septum)	22-11w	—	22780
PerkinElmer Kit (septum cap adapter, O-ring, nut, 2 septa)	51-12w	PE# N9303344	22781
Replacement Septum for Varian and PerkinElmer Kits (1 septum)	21-01w	PE# N9303345	22782

**Measure  
Your  
Savings!**

**Great  
Prices,  
Great  
Products!**

**Stock up on Hamilton syringes  
from Restek and save today!**

Visit [www.restek.com/syringe](http://www.restek.com/syringe)



# Gas Purification Essentials

## LC/MS Generators

**NEW!**

### Parker Balston® Nitrogen Gas Generators for LC/MS

- Turn compressed air into ultra-pure nitrogen (up to 99.5%).
- Safe, reliable, low maintenance.

Description	Model #	qty.	cat.#
Nitrogen Generator	NitroFlow Lab Model, 32 lpm max. flow	ea.	22129
Nitrogen Generator	N2-04 Model for ELSD, 8 lpm max. flow	ea.	22130
Nitrogen Generator	N2-14 (general purpose) 78 scfh max. flow at 95% purity	ea.	20677
Nitrogen Generator	N2-14 with European Power Cord	ea.	20677-551
Nitrogen Generator	N2-14A (general purpose w/oxygen analyzer) 78 scfh max. flow at 95% purity	ea.	21652
Nitrogen Generator	N2-22 Model, 44 lpm max. flow	ea.	22131
Nitrogen Generator	N2-22A Model, 29 lpm max. flow	ea.	22132
Nitrogen Generator	N2-35 Model, 44 lpm max. flow	ea.	22133
Nitrogen Generator	N2-35A Model, 44 lpm max. flow	ea.	22134

For specifications and more information on our Gas Generators, visit [www.restek.com/gas](http://www.restek.com/gas)



## Reduce Line Pressure with an Ultra High Purity Line Regulator

- Chrome-plated brass.
- Reduce line pressure by 20psig or more.



Fitting	qty.	cat.#
1/4" female NPT ports*		
Outlet Pressure: 0-50psig (0-345kPa)		
Outlet Gauge: 30" - 0 to 100psig (0-689kPa)	ea.	21666
1/4" female NPT ports*		
Outlet Pressure: 0-100psig (0-689kPa)		
Outlet Gauge: 30" - 0 to 200psig (0-1379kPa)	ea.	22452

\*Order appropriate male connector, pipe-to-tube fittings.

## Restek Electronic Leak Detector

**Protect your data and analytical column!**

High temperature methods are extremely sensitive to carrier gas impurities such as water and oxygen. Make sure you have clean carrier gas and frequently check connections and injection system fittings for leaks using our electronic leak detector.



**Leak Detector with Universal Charger Set (US, UK, European, Australian)**  
Cat.# 22839

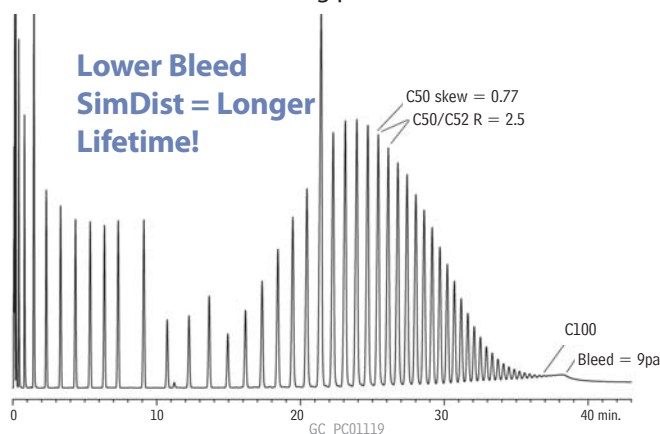
[www.restek.com/leakdetector](http://www.restek.com/leakdetector)

# Get More Runs from Your SimDist Setup with MXT®-1HT SimDist Columns

- Stable to 450°C—lower bleed means longer lifetime.
- More accurate final boiling points, due to better resolution and symmetry.
- Meets all D6352 and D7500 specifications; 100% dimethyl polysiloxane phase allows easy comparison to historical data.
- Unbreakable metal column is safer when using hydrogen.



Superior resolution and peak shape on MXT®-1HT SimDist columns result in more accurate final boiling point determinations.



Column: MXT®-1HT Sim Dist, 5m, 0.53mm ID, 0.20µm (cat.# 70115);  
Sample: C5-C100, 1% in carbon disulfide  
For additional conditions visit [www.restek.com](http://www.restek.com) and search for GC\_PC01119

Visit [www.restek.com/petro](http://www.restek.com/petro) for more  
information about SimDist Columns.

**RESTEK**

Lit. Cat.# GNES1219-INT  
2010 v.3

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## QuEChERS Products

**Quick, Easy, Cheap, Effective, Rugged and Safe!**

**Tubes & Standards**

**for multi-residue pesticide analysis from food and other matrices**

See page 5 for details.



**Subscribe online!**  
[www.restek.com/essentials](http://www.restek.com/essentials)

## What's New!

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## Great Savings!

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## Fast GC Analysis

**Analyze Chlorinated  
Pesticides in  
7 Minutes!**

**Solutions for  
Pesticide Analysis**

See page 8 for details.



## Ultra II<sup>®</sup> LC Columns

NEW!

Universal application for **Any LC System**,  
providing scalability and unsurpassed  
selectivity on a wide range of particle sizes.



### Available Phases:

- C18
- C8
- Biphenyl
- PFP Propyl
- Aromax
- Aqueous C18
- Silica
- IBD
- Carbamate
- Quat

### Available Particle Sizes:

- 1.9µm for UHPLC
- 2.2µm for UFLC and RRLC
- 3µm and 5µm for HPLC

More phases  
coming soon!

[www.restek.com/ultra2](http://www.restek.com/ultra2)

## Save on Preventive Maintenance Kits & Parts for Agilent & Waters Systems

Compare  
and **SAVE!**

Description for Agilent LCs		Similar to Agilent part		
	Model #	#	qty.	cat.#
Preventive Maintenance Kit	1050	01078-68721	kit	25259
Autosampler Preventive Maintenance Kit	1100	G1313-68709	kit	25271
Pump Maintenance Kit	1050, 1100	G1311-68710	kit	25270

Description		Similar to Waters part		
	Model #	#	qty.	cat.#
Preventive Maintenance Kit	Alliance 2690, 2695	WAT270944	kit	25143
Pump Preventive Maintenance Kit	600 Pump	WAT052675	kit	25144
Autosampler Preventive Maintenance Kit	717 Autosampler	WAT052669	kit	25145
Pump Preventive Maintenance Kit	616 Pump	WAT052672	kit	25146
Pump Preventive Maintenance Kit	515 Pump	WAT052587	kit	26519

PerformancePLUS Check Valve Cartridge	M6KA, 501, 510, 515, 590, 600E	700000254	2-pk.	25370
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Replacement parts are also available for PerkinElmer, Shimadzu,  
Thermo Scientific, Beckman & Hitachi HPLC Systems at very affordable prices.



## Don't burn up your budget!

Save on selected **Detector Lamps.**

Visit [www.restek.com/LCLamps](http://www.restek.com/LCLamps)

for a complete listing of lamps for:

- Agilent HPLC Systems
- Beckman HPLC Systems
- Hitachi HPLC Systems
- PerkinElmer Instruments
- Shimadzu HPLC Systems
- Waters Detectors



## Piston Seals for Agilent 1050, 1100, and 1200 Instruments

Piston seals wear out over time and Restek is your best option for economical replacements. Choose our graphite-filled Teflon® seals, which are best for organic solvents.

Piston Seals, Teflon w/Graphite, Black

qty.	Agilent part #	Agilent price	Restek cat. #
2-pk.	5063-6589	\$93.23	22482
10-pk.	NA	NA	22483



## HPLC Piston Seal Insertion Tool

Simplify your pump maintenance: use one end to remove your old seal, then slip your new seal on the other end and push it flush into position. The tool will not mar the surrounding metal surface of the pump housing.



Description	qty.	cat. #
HPLC Piston Seal Insertion Tool	ea.	21356

## Secure-Fit Fittings

A good connection between HPLC components is imperative for trouble-free chromatography. Secure-Fit connectors ensure a consistent, leak-free seal—and eliminate excess dead volume! Stainless steel and PEEK™ Finger-tighten fittings are available.



### Secure-Fit Fittings—Single Connectors

Length	Stainless Steel			PEEK		
	0.005" ID	0.007" ID	0.010" ID	0.005" ID	0.007" ID	0.010" ID
6cm	25181	25185	25190	25230	25234	25217
10cm	25182	25186	25191	25231	25235	25218
20cm	25183	25187	25192	25232	25236	25219
30cm	25184	25188	25193	25233	25237	25220
50cm	26510	26511	26512	—	—	—

### Secure-Fit Fittings—Two Connectors

Length	Stainless Steel			PEEK		
	0.005" ID	0.007" ID	0.010" ID	0.005" ID	0.007" ID	0.010" ID
10cm	25208	25211	25214	25221	25224	25227
20cm	25209	25212	25215	25222	25225	25228
30cm	25210	25213	25216	25223	25226	25229
50cm	26513	26514	26515	—	—	—



## Accelerate development

Strategic choices aren't just about instruments. When you need to get to market faster, you need ground-breaking column chemistries. Restek columns are designed specifically for highly selective discovery and DMPK studies. Universal ULTRA II® columns, available in a wide range of novel phases, ensure optimal performance from your UHPLC and LC/MS systems. You designed your lab for efficiency and productivity; don't settle for less from your consumables. Choose Restek columns and get a better return on your instrument investment.

- **Innovative column chemistries**
- **Precise analytical standards**
- **Quality LC & GC consumables**
- **Expert technical support**

**RESTEK**  
Chromatography Products



**Ultra II®**  
LC Columns

**HROMalytic** +61(0)3 9762 2034  
**ECHnology** Pty Ltd  
Australian Distributors; Importers & Manufacturers



## QuEChERS Products

**Quick, Easy, Cheap, Effective, Rugged and Safe!**

### Tubes & Standards

**for multi-residue pesticide analysis  
from food and other matrices**



## Complete Product Offering

**to support AOAC (2007.01) & European  
(EN15662) QuEChERS Methods**

- Comprehensive portfolio of QuEChERS tubes.
- Method-specific internal and QC standards.
- Rxi®-5Sil MS Capillary column
- Ultra Aqueous C18 LC Column.

## Introducing **NEW** Q-sep™ 3000 Centrifuge for QuEChERS



Priced to fit your laboratory's budget, the Q-sep™ 3000 Centrifuge is the first centrifuge specifically designed for QuEChERS methodology. This compact, quiet, yet powerful, unit spins at the 3,000g force required by the European method.

For product listing, visit  
[www.restek.com/quechers](http://www.restek.com/quechers)

### QuEChERS Internal Standard Mix

for GC/ECD Analysis (4 components)  
cat. # 33265 (ea.)

for GC/NPD and LC/MS/MS Analysis (2 components)  
cat. # 33266 (ea.)

for GC/MS Analysis (6 components)  
cat. # 33267 (ea.)

for LC/MS/MS Analysis  
cat. # 33261 (ea.)

### QuEChERS Single-Component Reference Standards

Concentration is µg/mL.

Compound	Solvent	Conc.	cat.# (ea.)
PCB 18 (5mL)	ACN	50	33255
PCB 28 (5mL)	ACN	50	33256
PCB 52 (5mL)	ACN	50	33257
PCB 138 (5mL)	ACN	50	33262
PCB 153 (5mL)	ACN	50	33263
triphenylmethane (5mL)	ACN	10	33260
triphenylphosphate (5mL)	ACN	20	33258
tris(1,3-dichloroisopropyl)phosphate (5mL)	ACN	50	33259

ACN = acetonitrile

### QuEChERS Quality Control Standards for GC/MS Analysis

50µg/mL each in acetonitrile, cat. # 33268 (ea.)  
100µg/mL in acetonitrile, 5mL/ampul cat. # 33264 (ea.)

For a complete list of unique  
QuEChERS solutions and products,  
visit [www.restek.com/quechers](http://www.restek.com/quechers)

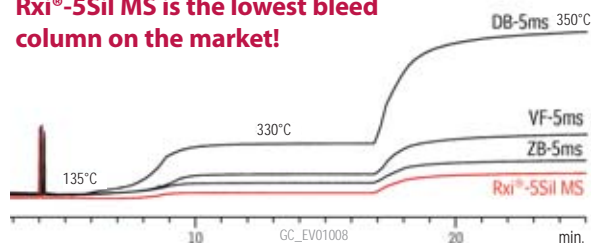


## Rxi®-5Sil MS Columns

**Exceptionally Inert Columns for GC/MS and Trace Level Analyses**

- **Low bleed** for lower detection limits of late eluting PAHs.
- **Excellent resolution** of benzo(b)fluoranthene and benzo(k)fluoranthene
- Engineered to assure **column-to-column reproducibility**.

**Rxi®-5Sil MS is the lowest bleed column on the market!**



ID	df (µm)	temp. limits	length	cat. #
0.18mm	0.18	-60 to 330/350°C	20-Meter	43602
0.18mm	0.36	-60 to 330/350°C	20-Meter	43604
0.25mm	0.25	-60 to 330/350°C	30-Meter	13623
0.25mm	0.50	-60 to 330/350°C	30-Meter	13638

**Try Rxi®-5Sil MS with Integra-Guard®!**  
Get the protection without the connection!



**Find Out More about Rxi® 3-in-1 Technology at [www.restek.com/rxi](http://www.restek.com/rxi)**  
See PAH chromatogram #GC\_EV00943



## Complete offering to support EPH Method

Wide selection to support many methods.

### MA EPH Aromatic Hydrocarbon Standard

1,000µg/mL each in methylene chloride, 1mL/ampul  
cat. # 31458 (ea.)

### MA EPH Surrogate Spike Mix

4,000µg/mL each in acetone, 1mL/ampul  
cat. # 31479 (ea.)

### MA EPH Matrix Spike Mix

250µg/mL each in acetone, 1mL/ampul  
cat. # 31460 (ea.)

### MA EPH Aliphatic Hydrocarbon Standard

1,000µg/mL each in hexane, 1mL/ampul  
cat. # 31459 (ea.)

### MA Fractionation Check Mix

25µg/mL each in hexane, 1mL/ampul  
cat. # 31481 (ea.)

### 5-α-androstane

2,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31065 (ea.)

### Naphthalene-d8

2,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31043 (ea.)

### MA Fractionation Surrogate Spike Mix

4,000µg/mL each in hexane, 1mL/ampul  
cat. # 31480 (ea.)

### 1-Chlorooctadecane Mix

10,000µg/mL in methylene chloride, 1mL/ampul  
cat. # 31098 (ea.)

## Analyzing Hydrocarbons in the Air?

### MA APH Mix

(26 components): 1ppm in Nitrogen



Now updated to comply with method revision Dec 2008, "Method For the Determination of Air-Phase Petroleum Hydrocarbons" from MA DEP.

Save Time with prepacked sample prep cartridges!

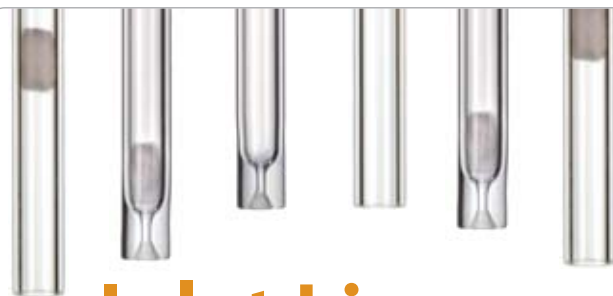
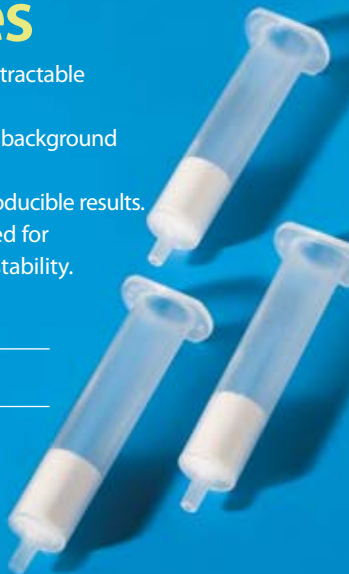
## EPH Tubes

- Superior fractionation of extractable petroleum hydrocarbons.
- Easier quantification; lower background & less interference.
- Reliable, accurate, and reproducible results.
- Unique packaging designed for convenience and storage stability.

Tube Volume, Bed Weight	qty.	cat.#
20mL, 5g	20-pk.	26065

### Get More!

Search for Application Note  
580135 (p. 14-15) at  
[www.restek.com](http://www.restek.com)



## Inlet Liners

the Perfect Choice for EPH Analysis

**A Single Gooseneck Liner with our NEW Semivolatiles Wool for Splitless Applications.**

**4.0mm ID x 6.5mmOD x 78.5mm length**

qty.	cat.#
ea.	20798-231.1
5-pk.	20799-231.5
25-pk.	20800-231.25



## 2.0mL Crimp-top Vials & Caps

Restek Recommended  
for EPH Analysis

### 2.0mL Crimp-Top Vials, 12 x 32mm, 11mm

Description	100-pk.	1000-pk.
2.0mL Clear Glass Vial w/White Graduated Marking Spot	24383	24384
2.0mL Amber Glass Vial w/White Graduated Marking Spot	24385	24386
2.0mL Clear Glass Vial without Graduated Marking Spot	21152	21153

### 2.0mL, 11mm Aluminum Crimp Seals with Septa

Description	100-pk.	1000-pk.
Silver Seal, PTFE/Natural Rubber Septa	21174	21175
Silver Seal, PTFE/Silicone Septa	24359	24360

**FREE Base Plate**  
with purchase of 2 triple filters

Get Super-Clean!

**Super-Clean Gas Filter & Base Plate Kit**



Description	qty.	cat.#
Restek Exclusive Triple Filter Kit: includes 2 triple filters & free base plate	kit	22859-409

**Offer valid through Dec. 31, 2010.  
Cannot be combined with other offers or discounts.**



# Essentials for Chlorinated

## Fast GC Analysis

*Reduce Costs: Analyze Chlorinated Pesticides  
in 7 Minutes!*

### Rtx®-CLPesticides Column Kits

- Application-specific columns for organochlorine pesticides and herbicides.
- Low bleed—ideal for GC/ECD or GC/MS analyses.
- Baseline separations in less than 10 minutes.
- Stable to 340°C.

#### 0.32mm ID Rtx-CLPesticides Kit

CLP Kit (cat.# 11196)

Includes:	cat.#
30m, 0.32mm ID, 0.32µm Rtx-CLPesticides Column	11141
30m, 0.32mm ID, 0.25µm Rtx-CLPesticides2 Column	11324
Universal Angled "Y" Press-Tight Connector	20403
5m, 0.32mm ID Siltek Guard Column	10027

Total cost if purchased separately



### Standards to support Chlorinated Pesticide Analyses



#### Pesticide Surrogate Mix

cat. # 32000 (ea.)

cat. # 32457 (ea.)

#### Organochlorine Pesticide System Evaluation Mix

cat. # 32417 (ea.)

#### Organochlorine Pesticide Mix AB #1

cat. # 32291 (ea.)

#### Florisil® Cartridge Check Standard

cat. # 32017 (ea.)

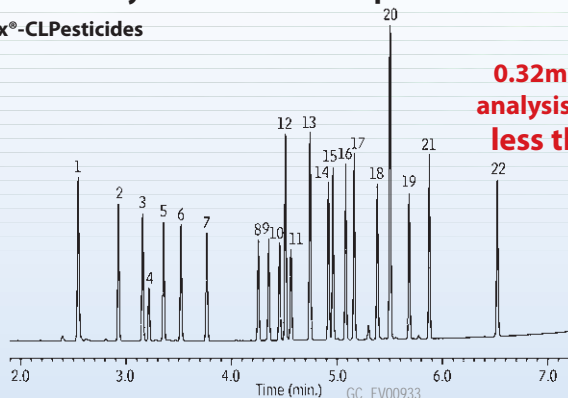
#### Organochlorine Pesticide Resolution Check Mix (with surrogates)

cat. # 32454 (ea.)

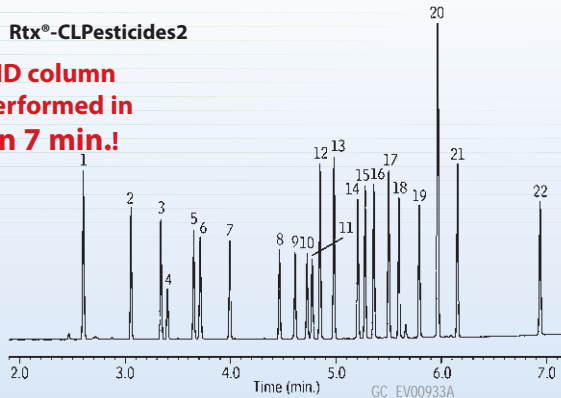
See our complete list of standards for CLP methods at [www.restek.com/clpstandards](http://www.restek.com/clpstandards)

### Fast GC analyses of chlorinated pesticides on Rtx®-CLPesticides and Rtx®-CLPesticides2 columns.

Rtx®-CLPesticides



Rtx®-CLPesticides2



**0.32mm ID column  
analysis performed in  
less than 7 min.!**

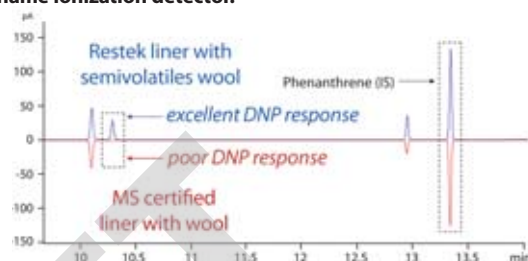
Columns: Rtx®-CLPesticides, 30m, 0.32mm ID, 0.32µm (cat. # 11141) and Rtx®-CLPesticides2, 30m, 0.32mm ID, 0.25µm (cat. # 11324); Sample: Organochlorine Pesticide Mix AB #2, 8-80µg/mL each component in hexane/toluene (cat. # 32292), Pesticide Surrogate Mix, 200µg/mL each component in acetone (cat. # 32000)  
For peak list and analytical conditions, visit [www.restek.com](http://www.restek.com) and search for GC\_EV00933

## Inlet Liners with Semivolatiles Wool for Agilent GCs

### Inlet Liners w/Semivolatiles Wool

ID* x OD & Length	qty.	cat.#
4mm Split	ea.	20781-231.1
(4.0mm x 6.3mm x 78.5mm)	5-pk.	20782-231.5
Gooseneck Splitless (4mm)	ea.	20798-231.1
4.0mm x 6.5mm x 78.5mm	5-pk.	20799-231.5
Drilled Uniliner (hole near bottom)	ea.	20756-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	20771-231.5
Drilled Uniliner (hole near top)	ea.	21054-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	21055-231.5

Response of 2,4-dinitrophenol (10ng) relative to phenanthrene using a flame ionization detector.



visit [www.restek.com/liners](http://www.restek.com/liners) for a full product listing

## Exclusive CarboPrep® Tubes for Clean-Up of Pesticides

- Reduce downtime by removing matrix interferences from sample extracts
- Excellent for removing pigments, sterols, and nonpolar interferences from sample extracts
- Controlled manufacturing of graphitized carbon improves cleanliness and ensures reproducible performance

SPE Cartridge	Tube Volume, Bed Weight	qty.	cat#
CarboPrep 90	3mL, 250mg	50-pk.	26091
CarboPrep 90	6mL, 500mg	30-pk.	26092
CarboPrep 200	3mL, 250mg	50-pk.	26088
CarboPrep 200	6mL, 500mg	30-pk.	26087

### Get More!

For more information, search for Application Note  
#EVAN1197 at [www.restek.com](http://www.restek.com)

## Dual Vespel Ring Inlet Seals **NEVER USE A WASHER AGAIN!**

visit [www.restek.com/dvr](http://www.restek.com/dvr) for more information



## Validated Florisil® Tubes for Pesticide Sample Prep

- Tested for pesticide recovery and TCP breakthrough per EPA SW-846, Method 3620C.
- For large volumes, use a 2g tube for greater savings and efficiency than two 1g tubes in series.

**Florisil® (EPA SW-846 methods and CLP protocols)**

3mL/500mg (50-pk.)	6mL/1000mg (100-pk.)	15mL/2g (100-pk.)
24031	26205	26228

Teflon® frits and glass tubes are also available.



# Rtx<sup>®</sup> Chemically Bonded Capillary Columns

General purpose columns for solvent impurities, PCB congeners or (e.g.) Aroclor mixes, simulated distillation, drug of abuse, gases, natural gas odorants, sulfur compounds, essential oils, hydrocarbons, semivolatiles, pesticides, oxygenates.



## Rtx<sup>®</sup>-1 Columns

ID	df (μm)	temp. limits	length	cat. #	qty.
0.25mm	0.25	-60 to 330/350°C	15-Meter	10120	ea.
0.25mm	0.25	-60 to 330/350°C	30-Meter	10123	ea.
0.25mm	1.00	-60 to 320/340°C	30-Meter	10153	ea.
0.25mm	1.00	-60 to 320/340°C	60-Meter	10156	ea.
0.32mm	0.25	-60 to 330/350°C	30-Meter	10124	ea.
0.32mm	0.50	-60 to 330/350°C	30-Meter	10139	ea.
0.32mm	1.00	-60 to 320/340°C	30-Meter	10154	ea.
0.32mm	1.00	-60 to 320°C	60-Meter	10157	ea.
0.32mm	5.00	-60 to 260/280°C	60-Meter	10180	ea.
0.53mm	1.50	-60 to 310/330°C	15-Meter	10167	ea.
0.53mm	3.00	-60 to 270/290°C	30-Meter	10185	ea.
0.53mm	5.00	-60 to 270/290°C	30-Meter	10179	ea.
0.53mm	7.00	-60 to 240/260°C	60-Meter	10193	ea.

## Rtx<sup>®</sup>-5 Columns

ID	df (μm)	temp. limits	length	cat. #	qty.
0.25mm	0.25	-60 to 330/350°C	15-Meter	10220	ea.
0.25mm	0.25	-60 to 330/350°C	30-Meter	10223	ea.
0.25mm	0.25	-60 to 330/350°C	60-Meter	10226	ea.
0.25mm	1.00	-60 to 320/340°C	30-Meter	10253	ea.
0.32mm	0.25	-60 to 330/350°C	30-Meter	10224	ea.
0.32mm	0.50	-60 to 330/350°C	30-Meter	10239	ea.
0.32mm	1.00	-60 to 330/350°C	30-Meter	10254	ea.
0.32mm	1.00	-60 to 330/350°C	60-Meter	10257	ea.
0.53mm	0.50	-60 to 310/330°C	30-Meter	10240	ea.
0.53mm	1.00	-60 to 310/330°C	30-Meter	10255	ea.
0.53mm	1.50	-60 to 310/330°C	30-Meter	10270	ea.
0.53mm	3.00	-60 to 270/290°C	30-Meter	10285	ea.
0.53mm	5.00	-60 to 270/290°C	30-Meter	10279	ea.



## Special pricing on multi-packs of 15 & 25!

### EPA 8270 Internal, Surrogate & Spike Mixes!



- 8270 Matrix Spike Mix
- SV Internal Standard Mix
- Revised SV Internal Standard Mix
- B/N Surrogate Mix (4/89 SOW)
- Revised B/N Surrogate Mix
- Acid Surrogate Mix (4/89 SOW)
- B/N Matrix Spike Mix

[www.restek.com/8270multipack](http://www.restek.com/8270multipack)



### GET YOUR MIX

Time-Saving EPA 8270 MegaMix®  
(76 components)

[www.restek.com/megamix](http://www.restek.com/megamix)

## USP Residual Solvents Standards

### USP-Equivalent Standards

to Achieve USP <467> Compliance

#### Residual Solvents - Class 1

(5 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36279 (equivalent to USP#1601102) (ea.)

#### Residual Solvents Class 2 - Mix B

(8 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36280 (equivalent to USP#1601292) (ea.)

#### Residual Solvents Class 2 - Mix A

(15 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36271 (equivalent to USP#1601281) (ea.)

#### Residual Solvents Class 2 - Mix C

(8 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36273 (equivalent to USP#1601306) (ea.)



Get more on **RESIDUAL SOLVENTS** at [www.restek.com/ovi](http://www.restek.com/ovi)



## Gas Purification Essentials

### LC/MS Generators

**NEW!**

#### Parker Balston® Nitrogen Gas Generators for LC/MS

- Turn compressed air into ultra-pure nitrogen (up to 99.5%).
- Safe, reliable, low maintenance.

Description	Model #	qty.	cat.#
Nitrogen Generator	NitroFlow Lab Model, 32 lpm max. flow	ea.	22129
Nitrogen Generator	N2-04 Model for ELSD, 8 lpm max. flow	ea.	22130
Nitrogen Generator	N2-14 (general purpose) 78 scfh max. flow at 95% purity	ea.	20677
Nitrogen Generator	N2-14 with European Power Cord	ea.	20677-551
Nitrogen Generator	N2-14A (general purpose w/oxygen analyzer) 78 scfh max. flow at 95% purity	ea.	21652
Nitrogen Generator	N2-22 Model, 44 lpm max. flow	ea.	22131
Nitrogen Generator	N2-22A Model, 29 lpm max. flow	ea.	22132
Nitrogen Generator	N2-35 Model, 44 lpm max. flow	ea.	22133
Nitrogen Generator	N2-35A Model, 44 lpm max. flow	ea.	22134

For specifications and more information on our Gas Generators, visit [www.restek.com/gas](http://www.restek.com/gas)



### Ultra-High Purity (UHP) Gas Regulators

**Compare and SAVE!**



#### Dual-Stage, Chrome-Plated Brass

Fitting	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	21667
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	21668
CGA 590 (Air)	21669

#### Single-Stage, Chrome-Plated Brass

Fitting	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	20646
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	20647
CGA 590 (Air)	20648

#### Dual-Stage, Stainless Steel

Fitting	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	20662
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	20663
CGA 590 (Air)	20664

#### Single-Stage, Stainless Steel

Fitting	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	20665
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	20666
CGA 590 (Air)	20667

Inlet gauge: 0 to 4,000psig (0-27,579kPa)  
Outlet pressure: 0 to 100psig (0-689kPa)

Outlet assembly: diaphragm valve, 1/4" tube fitting  
Outlet gauge: 30" - 0 to 200psig (0-1379kPa)

Visit [www.restek.com/gas](http://www.restek.com/gas) for more information

### Restek Electronic Leak Detector

**Protect your data and analytical column!**

High temperature methods are extremely sensitive to carrier gas impurities such as water and oxygen. Make sure you have clean carrier gas and frequently check connections and injection system fittings for leaks using our electronic leak detector.

**Leak Detector with Universal Charger Set (US, UK, European, Australian)**  
Cat.# 22839



[www.restek.com/leakdetector](http://www.restek.com/leakdetector)



## Photoionization (PID) Lamps



### Features

Longer life.

Model 108-BTEX has 33% more output than older models.

Lamps individually tested.

Variety of models.

### Benefits

More for your money with each lamp.

Operate continuously at 1 ma and 250°C for 6 months and still have better than 50% of the initial output.

Your lamp will work to specifications.

Among the best lamps available for most instrumentation.

Description	eV Rating	Base	qty.	cat. #
PID Lamp, Model 103 C	10.2	1.375"	ea.	20676
PID Lamp, Model 108	10.0/10.6	0.781"	ea.	20675
PID Lamp, Model 108-BTEX	10.0/10.6	0.781"	ea.	23020
PID Lamp Polishing Kit (contains iron oxide cleaning compound, swabs, and instructions)			kit	20674

## Did you know that Restek carries a complete line of ETP Electron Multipliers for Mass Spectrometry?



Description	qty.	cat.#
<b>Electron Multipliers for Agilent GC/MS and LC/MS</b>		
For Agilent 5970 GC/MS	ea.	23072
For Agilent 5971, 5972, GC GC/MS	ea.	23073
For Agilent 5973 & 5975 GC/MS (includes mount for initial installation)	ea.	23074
For Agilent 5973 & 5975 GC/MS and LC/MSD (Replacement Multiplier)	ea.	23075
For Agilent LC/MSD (includes mount for initial installation)	ea.	23076
<b>Electron Multiplier for Applied Biosystems (Sciex)</b>		
For API 300, 3000 & 4000 Applied Biosystems	ea.	23077
<b>Electron Multiplier for Thermo Finnigan GC/MS</b>		
For Thermo TRACE DSO, DSOII, and Polaris-Q GC/MS	ea.	23081

Other electron multipliers are available upon request. If you don't see your instrument listed, contact your local restek dealer.

## Convenient, Complete Injection Ports for Agilent GCs



restek innovation!

No more damaged gas lines!

Not available in Germany or Japan.

### EZ Twist Top™ Split/Splitless Injection Port for Agilent 6890/6850 GCs for use with large canister type filter

Description	qty.	cat.#
Complete Injection Port Assembly Kit	kit	22735
Complete Injection Port Assembly Kit, Siltek Treated	kit	22736

### EZ Twist Top™ Split/Splitless Injection Port for Agilent 6890/6850 GCs for use with Pencil Traps

Description	qty.	cat.#
Injection Port Assembly Kit	kit	22721
Injection Port Assembly Kit, Siltek Treated	kit	22722

### EZ Twist Top™ Split/Splitless Injection Port for Agilent 5890 GCs

Description	qty.	cat.#
Injection Port Assembly Kit	kit	22725
Injection Port Assembly Kit, Siltek Treated	kit	22726

**Injection Port Assembly Kits** include: split/splitless weldment, shell weldment, 2 weldment O-rings, Siltek Dual Vespel Ring inlet seal, septum nut, reducing nut, stainless steel capillary nut and weldment tool

**Injection Port Assembly Siltek Treated Kit**, include: Siltek split/splitless weldment, Siltek shell weldment, 2 weldment O-rings, Siltek Dual Vespel Ring inlet seal, septum nut, reducing nut, stainless steel capillary nut and weldment tool

For more information on the EZ Twist Top™ injector port and replacement parts, visit [www.restek.com](http://www.restek.com) and search for EZ Twist Top.



## Resolve Benzene and Toluene in Spark Ignition Fuels

**Use a Modified ASTM D3606-06e1  
Method and D3606 Column Set!**

### D3606 Application Column (2 column set)

- Complete resolution of benzene from ethanol—no compromising coelutions.
- Fully conditioned column set—ready to use out of the box.
- Each set is tested for method applicability chromatogram included.

#### Description

cat.#\*

D3606 Application Column (2 column set)\*\*

Column 1: 6' (1.8m), 1/8" OD, 2.0mm ID, nonpolar Rtx-1

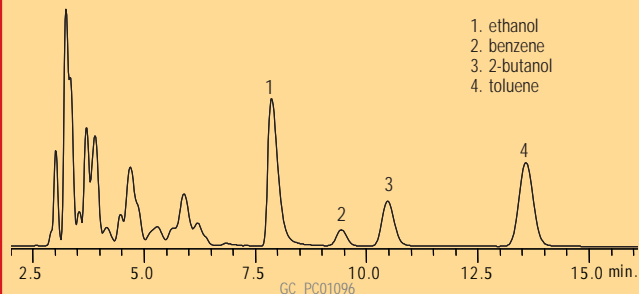
Column 2: 16' (4.9m), 1/8" OD, 2.0mm ID, proprietary packing material

83606-

\*Please add column instrument configuration suffix number to cat.# when ordering.

\*\*The column set is designed to accommodate both valve injection and/or syringe injection. Column 1 is configured with a 2" inlet void to facilitate on-column injection. The inlet is identified on both column 1 and column 2. Note: The inlet of column 2 is identified for proper orientation for connection to the valve.

### Complete resolution of benzene from ethanol!



1. ethanol
2. benzene
3. 2-butanol
4. toluene

Columns: D3606 Column Set

For analytical conditions, visit [www.restek.com](http://www.restek.com) and search for GC\_PC01096

### ASTM D3606 Standards

#### ASTM D3606 Backflush Standard

2,2,4-trimethylpentane (isooctane)

5% vol/vol in nonane, 1mL/ampul

cat. # 30671 (ea.)

#### ASTM D3606 Calibration Kit with *sec*-Butanol Internal Standard

Contains 1mL each of seven mixtures for calibration curve

cat. # 30674 (kit)

#### ASTM D3606 Calibration Kit without Internal Standard

Contains 25mL each of seven mixtures for calibration curve

cat. # 30672 (kit)

#### ASTM D3606 Calibration Kit with MEK Internal Standard

Contains 1mL each of seven mixtures for calibration curve

cat. # 30673 (kit)

RESTEK  REFINED innovative petrochemical solutions

## NEW Solutions For Your Petro Analyses

- Improved best-in-class GC columns.
- Standards to support ASTM methods.
- Industry experts at your service.

**CHROMALYTIC** +61(0)3 9762 2034  
**ECHnology** Pty Ltd  
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Website : [www.chromtech.net.au](http://www.chromtech.net.au) E-mail : [info@chromtech.net.au](mailto:info@chromtech.net.au) Tel no : 03 9761 1169 . . . in AUSTRALIA



## Need Tedlar Bags? Restek has them!

We are your **RELIABLE** source  
for Tedlar® Sampling Bags.  
No need to evaluate alternatives,  
our Tedlar® bag supply is **here to stay!**

- bag sizes 0.5L - 100L
- polypropylene & stainless steel valve options

[www.restek.com/air](http://www.restek.com/air)



## Vacuum Bag Sampler

Fill Tedlar® Bags without  
pump contamination!

- Cost-effective alternative for whole air sampling.
- Light weight and easy to use.
- Vacuum sampler fills bag quickly, without sample passing through pump.
- Large selection of Tedlar® bag sizes available, as well as stainless steel valve option.

## Simplify Air Sampling



**Whether you're automated or  
manual, Restek's Canister Timer  
has the features you need!**

- Program up to 12 timed events!
- Perfect for either grab or time-integrated sampling.
- Long battery life; recharges conveniently using the USB port on any PC.
- All stainless steel sample flow path ensures inertness, improving accuracy.

Description	qty.	cat.#
Canister Air Sampling Timer	ea.	24267

## **NEW!** Air Canister Tripod

For collocated ambient air sampling



- Holds most 1L, 3L, and 6L canisters securely, without any tools.
- Lightweight (9 pounds) and compact, for easy storage and transport.
- Large base provides enhanced stability, without additional supports.

Description	qty.	cat.#
Air Canister Tripod	ea.	24151

### PATENTS & TRADEMARKS

Restek patents and trademarks are the property of Restek Corporation. Other trademarks appearing in Restek literature or on its website are the property of their respective owners.

# Why allow a tiny leak to become a **GIANT** problem?

## Restek Electronic Leak Detector

**Protect your data and  
analytical column!**

- A sleek, new ergonomic, hand-held design.
- Longer lasting battery, up to 6 hours of continuous use.
- Automatic shut-off capabilities.
- A convenient carrying and storage case.
- A universal charger set (US, European, UK, and Australian plugs included).

Leak Detector with Universal Charger Set  
(US, UK, European, Australian)  
Cat.# 22839

For more information, visit  
**[www.restek.com/leakdetector](http://www.restek.com/leakdetector)**

**RESTEK**

ISO 9001:2008  
cert.# FM80397

Lit. Cat.# GNES1218-INT  
2010 v.2

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**ECH**nology Pty Ltd  
Australian Distributors; Importers & Manufacturers

Website : [www.chromtech.net.au](http://www.chromtech.net.au) E-mail : [info@chromtech.net.au](mailto:info@chromtech.net.au) Tel no : 03 9761 1169 . . . in AUSTRALIA



RESTEK  REFINED  
innovative petrochemical solutions

## Restek MXT<sup>®</sup>-1HT Sim Dist columns

See page 14 for details.

*Get Super-Clean!*

Super-Clean Gas Filter & Base Plate Kit

**FREE Base Plate**

with purchase of 2 triple filters

See page 5 for details.



Subscribe online!

[www.restek.com/essentials](http://www.restek.com/essentials)

## What's New!

Parts for ASE <sup>®</sup> Systems .....	2
Rxi <sup>®</sup> 624-Sil MS GC Columns .....	7
Rxi <sup>®</sup> -5HT Column .....	10
MXT <sup>®</sup> -1HT SimDist .....	14
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## Great Savings!

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Inlet Seals.....	9
Environmental Product Savings .....	12
FREE Base Plate .....	13

**RESTEK** Chromatography Products



## Replacement Parts for ASE® Systems

Great value for all your ASE® consumable needs!

### Autoseal Tip Assembly

for ASE® 200/300 Systems



Description	Stainless Steel		Siltek Treated	
	qty.	cat.#	qty.	cat.#
Autoseal Tip Assembly for ASE 200 Systems	ea.	26162	ea.	26161
Autoseal Tip Assembly for ASE 300 Systems	ea.	26246	ea.	26247

### Tubing Assembly

for ASE® 200/300 Systems



Description	qty.	cat.#
Tubing Assembly for ASE 200 Systems	ea.	26251
Tubing Assembly for ASE 300 Systems	ea.	26248

### Valves

for ASE® 100/200/300 Systems



Description	qty.	cat.#
Pressure Relief Valve for ASE 100/200/300 Systems	ea.	26159
Static Valve for ASE 100/200/300 Systems	ea.	26160

Find more replacement parts for ASE® systems at [www.restek.com/ase](http://www.restek.com/ase)



### Validated Florisil® Tubes for Pesticide Sample Prep

- Tested for pesticide recovery and TCP break-through per EPA SW-846, Method 3620C.
- For large volumes, use 2g tube for greater savings and efficiency than two 1g tubes in series.

**Florisil (EPA SW 846 methods and CLP protocols)**

3mL/500mg (50-pk.)	6mL/1000mg (100-pk.)	15mL/2g (100-pk.)
24031	26205	26228

Teflon® frits and glass tubes also available.

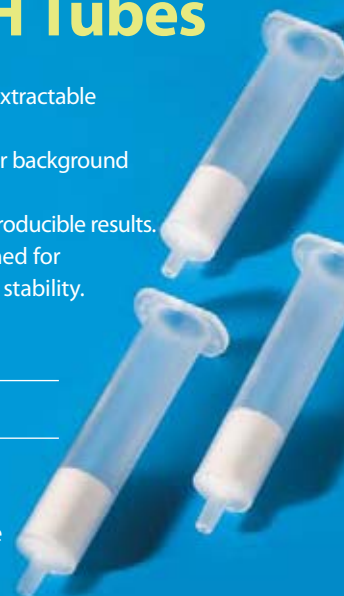
## Mass. EPH Tubes

- Superior fractionation of extractable petroleum hydrocarbons.
- Easier quantification; lower background & less interference.
- Reliable, accurate, and reproducible results.
- Unique packaging designed for convenience and storage stability.

Tube Volume, Bed Weight	qty.	cat.#
20mL, 5g	20-pk.	26065

### Get More!

Search for Application Note  
580135 (p. 14-15) at  
[www.restek.com](http://www.restek.com)





# melamine?

**Complete Kit with easy-to-follow instructions  
for detecting melamine down to 1 µg/g**

**Melamine Analysis Kit.....cat. # 33254 (kit)**

**Detect melamine and related compounds by GC/MS.**

Kit includes (also sold individually):

- **Rxi®-5Sil MS with 5 meter Integra Guard® Column**
- **Standards**
- **Derivatization Reagent**
- **Accessory Tubes and Syringe Filters**
- **Easy-to-Follow Instructions** with procedural check list to simplify laboratory documentation!

**SAVE**  
when you  
buy as a kit

Keep up with advances in melamine analysis at [www.restek.com/melamine](http://www.restek.com/melamine)

## Assure LC/MS/MS System Suitability with our Unique Forensic Drug Screen Test Mixture

## Standards for exempted drugs of abuse available:

- Benzodiazepines
- Cocaine & Metabolites
- Methadone & Metabolites
- Amphetamines & Metabolites
- Opiates & Metabolites
- Cannabinoid & Metabolites
- Barbiturates
- GHB
- LSD
- and others

**Increase sample throughput and data quality with easy, reliable verification of LC/MS/MS performance.**

## Forensic Drug Screen Test Mixture

amiodarone	10µg/mL	diazepam	10
amphetamine	10	doxepine	10
caffeine	10	haloperidol	1
codeine	10	morphine	10

In P&T methanol, 1mL/ampul

cat. # 36340 (ea.)

## Forensic Drug Screen Internal Standard

D5-diazepam

D5-doxepine

10µg/mL each in P&T methanol, 10mL/ampul

cat. # 36341 (ea.)

## Get More!

For more information on our LC/MS/MS system suitability test mix for drug analysis, request lit. cat# CFTS1002.

In addition to these, see our extensive selection of NIST-traceable Blood Alcohol Standards at [www.restek.com](http://www.restek.com)

visit **www.restek.com** for all your chromatography needs



## Ultra II<sup>®</sup> LC Columns

**NEW!**

Universal application for **Any LC System**, providing scalability and unsurpassed selectivity on a wide range of particle sizes.

### Available Phases:

C18 • C8 • Biphenyl • PFP Propyl • Aromax  
Aqueous C18 • Silica • IBD • Carbamate • Quat

### Available Particle Sizes:

1.9µm for UHPLC • 2.2µm for UFLC and RRLC  
3µm and 5µm for HPLC

**On SALE NOW!**

Add -712 to end of part number to receive this discount. Offer ends soon!

[www.restek.com/ultra2](http://www.restek.com/ultra2)  
More phases coming soon!

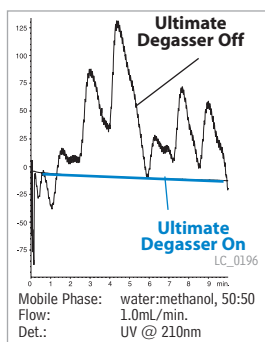
## Mobile Phase Degasser

In-line vacuum degassing

- Prevents oxygen from causing flow rate instability and baseline noise.
- Prevents bubbles from forming in check valves, at connections, or in detector flow cells.
- More effective than sonication or helium sparging.



**Degasys Ultimate Degasser provides highly stable baselines**



### Specifications:

**Residual Oxygen<sup>1</sup>** 0.9ppm  
**Pressure Loss<sup>1</sup>** 0.24psi (1.65kPa)  
**Internal Volume** 500µL

<sup>1</sup>At a flow rate of 1mL/min.

**Wetted Parts** Teflon AF, PTFE, ETFE, PPS  
**Max Flow Rate** 7mL/min./channel

Description	qty.	cat.#	price
110V Mobile Phase Degasser (4 Channel, 7mL/min./channel)	ea.	25189	
220V Mobile Phase Degasser (4 Channel, 7mL/min./channel)	ea.	25194	

To prevent system damage, do not use the Degasys system with solutions containing TFA at concentrations greater than 5%.

## HPLC Mixers

- **Reduced baseline noise.**
- **Increased sensitivity.**
- **Improved gradient accuracy, for more reproducible results.**
- **Increased reaction efficiency in post-column derivatization.**

### HyperShear Static In-Line Mixers



Description	Stainless Steel			PEEK		
	qty.	cat.#	price	qty.	cat.#	price
1µL In-Line Mixer	ea.	26409		ea.	26410	
25µL In-Line Mixer	ea.	26411		ea.	26412	
50µL In-Line Mixer	ea.	25341		ea.	26413	
150µL In-Line Mixer	ea.	25342		ea.	26414	
250µL In-Line Mixer	ea.	25343		ea.	26415	

### Ternary Tee Mixer

- An efficient cross-flow shearing mechanism and interchangeable cartridges produce vortex shear mixing over a wide range of flows
- Stainless steel construction

Description	qty.	cat.#	price
25µL Ternary Tee Mixer	ea.	25138	



## Filters

### Reduce Solvent Waste with the Last Drop Filter

- Stop wasting money with conventional methods that typically leave 10% of your mobile phase behind.
- Draw 98% of the mobile phase without drawing air into the system.



Description	qty.	cat.#
Last Drop Filter: 2 $\mu$ m	ea.	25314
Last Drop Filter: 10 $\mu$ m	ea.	25315

### Mobile Phase Sparger Inlet Filter

The 2 $\mu$ m helium sparge filter is an inexpensive way to prepare and maintain mobile phases free of dissolved gas. Both filters are made from 316 stainless steel and PEEK™ and are compatible with most solvents.



Description	qty.	cat.#
Mobile Phase Sparge Filter: 2 $\mu$ m	ea.	25311
Inlet Filter: 10 $\mu$ m	ea.	25312
Inlet Filter: 20 $\mu$ m	ea.	25313

### Membrane Microfiltration Glassware

- 47mm filtration apparatus with fritted glass support ideal for corrosive liquids and removal of particles from HPLC solvents.
- Ground joint connection eliminates phthalate contamination that can occur when using silicone or neoprene stoppers.
- Includes a funnel, an anodized aluminum clamp, a 47mm fritted glass support base, and a filtration flask.



All-Glass Microfiltration Apparatus	qty.	cat.#
300mL Funnel, 1000mL Flask	ea.	KT953825-0000
500mL Funnel, 2000mL Flask	ea.	KT953835-0000
1000mL Funnel, 4000mL Flask	ea.	KT953845-0000
Replacement Parts for Microfiltration Apparatus	qty.	cat.#
40/35 PTFE Joint Sleeve	6-pk.	KT676001-4035
Flask Cap, 40/35 Outer Joint	ea.	KT953830-0000
Fritted Glass Support, 47mm, 40/35 Joint	ea.	KT953826-0000
Glass Funnel, 47mm, 100mL	ea.	KT953761-0000
Glass Funnel, 47mm, 300mL	ea.	KT953751-0000
Glass Funnel, 47mm, 500mL	ea.	KT953771-0000
Glass Funnel, 47mm, 1000mL	ea.	KT953781-0000
Flask, 1000mL, 40/35 Joint	ea.	KT953827-0000
Flask, 2000mL, 40/35 Joint	ea.	KT953828-0000
Flask, 4000mL, 40/35 Joint	ea.	KT953829-0000
Aluminum Clamp, 47mm	ea.	KT953753-0000
Membrane Filters	qty.	cat.#
Polypropylene Membrane Filters, 47mm, 0.45 $\mu$ m	100-pk.	26396
Polypropylene Membrane Filters, 47mm, 0.22 $\mu$ m	100-pk.	26397
Nylon Membrane Filters, 47mm, 0.45 $\mu$ m	100-pk.	26398
Nylon Membrane Filters, 47mm, 0.22 $\mu$ m	100-pk.	26399

## Flow Splitters



**QuickSplit Post-Column Flow Splitters use fluid resistor technology to eliminate adjustments to capillary tubing for optimizing split ratio.**



### Fixed Flow Splitters for HPLC & LC/MS

- Split ratio not affected by changes in viscosity or pressure.
- High operating pressure limit: 10,000psi (68,948kPa).
- Low dead volume—negligible effect on analyte bandwidth.
- Total flow: 0.1–5.0mL/min.

### Adjustable Flow Splitter

- Adjustable metering valve gives convenient control of split ratio.
- Split ratio not affected by changes in viscosity or pressure.
- High operating pressure limit: 5,000psi (34,474kPa).
- Low dead volume—negligible effect on analyte bandwidth.
- Total flow: 0.1–5.0mL/min.

Description	Split Ratio	qty.	cat.#
Binary Fixed Flow Splitter	100:01:00	ea.	25326
	50:01:00	ea.	25327
	20:01	ea.	25328
	10:01	ea.	25329
	5:01	ea.	25330
Replacement Fixed Flow Splitter Resistor Set	100:01:00	ea.	25331
	50:01:00	ea.	25332
	20:01	ea.	25333
	10:01	ea.	25334
	5:01	ea.	25335
Adjustable Flow Splitter	5:1 to 100:1	ea.	25336
	1:1 to 20:1	ea.	25337
	50:1 to 1000:1	ea.	26416
Replacement Adjustable Flow Splitter Resistor Set	5:1 to 100:1	ea.	25338
	1:1 to 20:1	ea.	25339

visit [www.restek.com](http://www.restek.com) for all your chromatography needs



# USP Residual Solvents Standards

We have them on hand and ready to ship within 24 hours!

**New Lower  
Prices!**

## USP-Equivalent Standards to Achieve USP <467> Compliance



### Residual Solvents - Class 1

(5 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36279 (equivalent to USP#1601102) (ea.)

### Residual Solvents Class 2 - Mix B

(8 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36280 (equivalent to USP#1601292) (ea.)

### Residual Solvents Class 2 - Mix A

(15 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36271 (equivalent to USP#1601281) (ea.)

### Residual Solvents Class 2 - Mix C

(8 components)

In dimethyl sulfoxide, 1mL/ampul

cat. # 36273 (equivalent to USP#1601306) (ea.)

Get more on  
**RESIDUAL SOLVENTS**  
at [www.restek.com/ovi](http://www.restek.com/ovi)



**Crimp Top  
Headspace Vials  
also Available!**

## Screw Thread Headspace Vials & Caps

Perfect for your Residual Solvents Analysis

- 10 and 20 mL screw thread vials available
- 18mm magnetic screw thread caps

Description	Dimensions	100-pk.	1000-pk.
20mL Clear Screw Thread Vial	22 x 75mm	23082	23083
10mL Clear Screw Thread Vial	22 x 45mm	23084	23085
18mm Magnetic Screw Thread Cap w/PTFE/Silicone		23090	23091
18mm Magnetic Screw Thread Cap w/PTFE/Silicone for SPME		23092	23093
18mm Magnetic Screw Thread Cap w/PTFE/Red Chlorobutyl		23094	23095

**Ambers vials also available!**

Introducing...

## Rxi<sup>®</sup>-624Sil MS Columns for USP <467> Residual Solvents analysis



Improve system suitability pass rates with the best resolution of acetonitrile and dichloromethane on any G43 column phase.

- Symmetric peak shape for bases provides accurate integration and unmatched sensitivity.
- High thermal stability ensures a low bleed baseline, making it the most MS friendly column in its class.
- Rxi<sup>®</sup> technology column-to-column reproducibility needed in validated methods.

### Rxi<sup>®</sup>-624Sil MS Columns

(fused silica Crossbond<sup>®</sup> silarylene phase; equivalent to 6% cyanopropylphenyl/94% dimethyl polysiloxane)

Highest in it's class!

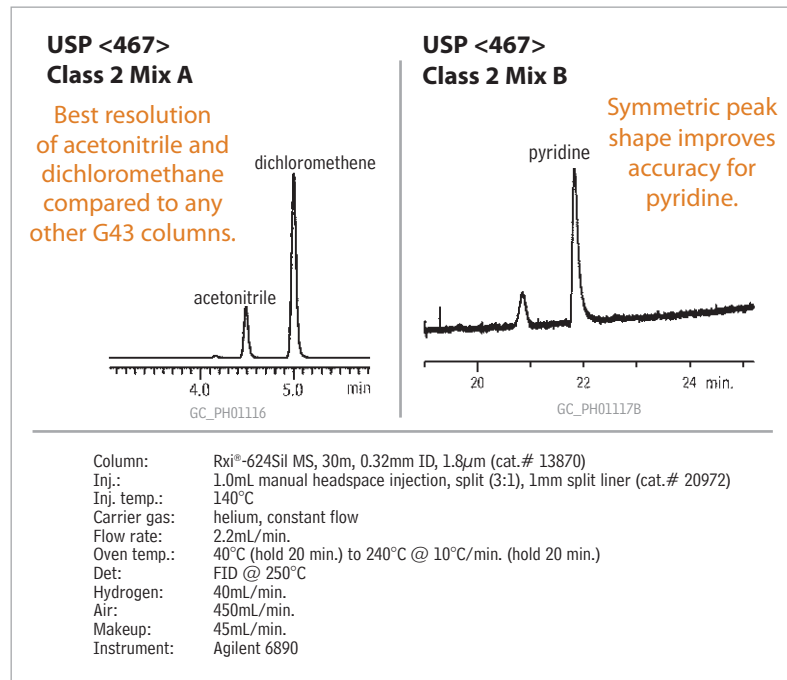
ID	df (μm)	temp. limits	length	cat. #
0.18mm	1.00	-60 to 300/320°C	20-Meter	13865
0.25mm	1.40	-60 to 300/320°C	30-Meter	13868
0.32mm	1.80	-60 to 300/320°C	30-Meter	13870
0.32mm	1.80	-60 to 300/320°C	60-Meter	13872
0.53mm	3.00	-60 to 280/300°C	30-Meter	13871

For additional column dimensions, visit [www.restek.com](http://www.restek.com)



**Make the Switch to Rxi<sup>®</sup> columns!**

Replaces: DB-624, HP-624, VF-624, BP-624, ZB-624, AT-624, 007-1301, G43R



visit [www.restek.com/ovi](http://www.restek.com/ovi) for complete product listing

7



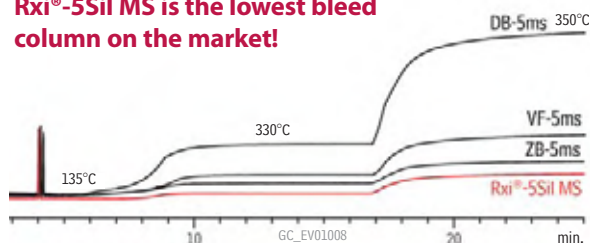
# Running 8270? Let us help!

## Rxi®-5SiI MS Columns

**Exceptionally Inert Columns for GC/MS  
and Trace Level Analyses**

- **Low bleed** for lower detection limits.
- **Excellent inertness** for acidic and basic compounds.
- Engineered to assure **column-to-column reproducibility**.

**Rxi®-5SiI MS is the lowest bleed  
column on the market!**



(Crossbond®, selectivity close to 5% diphenyl/95% dimethyl polysiloxane)

ID	df (µm)	temp. limits	length	cat. #	price
0.18mm	0.18	-60 to 330/350°C	20-Meter	43602	
0.18mm	0.36	-60 to 330/350°C	20-Meter	43604	
0.25mm	0.25	-60 to 330/350°C	30-Meter	13623	
0.25mm	0.25	-60 to 330/350°C	60-Meter	13626	
0.25mm	0.50	-60 to 330/350°C	30-Meter	13638	
0.32mm	0.50	-60 to 330/350°C	30-Meter	13639	

**Try Rxi®-5SiI MS with Integra-Guard®!**

**Get the protection without the connection!**

**SAVE!**

## Special pricing on multi-packs of 15 & 25!

### EPA 8270 Internal, Surrogate & Spike Mixes!



- 8270 Matrix Spike Mix
- SV Internal Standard Mix
- Revised SV Internal Standard Mix
- B/N Surrogate Mix (4/89 SOW)
- Revised B/N Surrogate Mix
- Acid Surrogate Mix (4/89 SOW)
- B/N Matrix Spike Mix

[www.restek.com/8270multipack](http://www.restek.com/8270multipack)



## GET YOUR MIX

Time-Saving EPA 8270 MegaMix®  
(76 components)

[www.restek.com/megamix](http://www.restek.com/megamix)

# Inlet Liners with Semivolatiles Wool

for Agilent GCs

## Inert Sample Path Increases Accuracy for Semivolatiles

Compliment your inert Rxi®-5SIL MS column by completing the inert sample pathway with Restek liners packed with our new Semivolatiles wool. Inert wool improves accuracy and precision while acting as a physical barrier between your column and non-volatile matrix components. The figure to the right compares a Restek liner packed with Semivolatiles wool with a competitor's liner for the commonly monitored and very active 2,4-dinitrophenol.

### Inlet Liners w/Semivolatiles Wool

ID* x OD & Length	qty.	cat.#
<b>4mm Split</b>	ea.	20781-231.1
(4.0mm x 6.3mm x 78.5mm)	5-pk.	20782-231.5
<b>4mm Splitless</b>	ea.	20772-231.1
4.0mm x 6.5mm x 78.5mm	5-pk.	20773-231.5
<b>4mm Gooseneck Splitless</b>	ea.	20798-231.1
4.0mm x 6.5mm x 78.5mm	5-pk.	20799-231.5
<b>4mm Gooseneck Precision Liner</b>		
4.0mm x 6.3mm x 78.5mm	5-pk.	22984-231.5
<b>Low Pressure Drop Precision Liner</b>	ea.	21032-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	21033-231.5
<b>Drilled Uniliner (hole near bottom)</b>	ea.	20756-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	20771-231.5
<b>Drilled Uniliner (hole near top)</b>	ea.	21054-231.1
4.0mm x 6.3mm x 78.5mm	5-pk.	21055-231.5

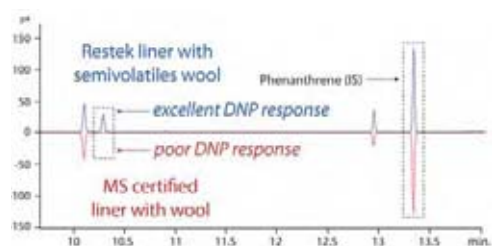
To order new Semivolatiles Wool in additional prepacked liners, add the corresponding suffix number to the liner catalog number.

IP Deactivated Liner with Semivolatiles Wool	
qty.	
each	-231.1
5-pk.	-231.5
25-pk.	-231.25

Additional charges may apply.

visit [www.restek.com/liners](http://www.restek.com/liners) for a full product listing

Response of 10ng of 2,4-dinitrophenol compared to phenanthrene using a flame ionization detector.



**Great Value on Extraction Supplies for ASE® Systems**  
Extraction cells now serialized!  
[www.restek.com/ase](http://www.restek.com/ase)

**NEVER USE A WASHER AGAIN!**  
**Buy one 10-pk. of Dual Vespel® Ring**  
**Receive a 2nd 10-pk. FREE!**

0.8mm ID Dual Vespel Ring Inlet Seal	Restek cat.#	2nd 10-pk. Special Promo
Gold-Plated, 10-pk.	21241-409A	FREE
Siltek Treated, 10-pk.	21243-409A	FREE
<b>1.2mm ID Dual Vespel Ring Inlet Seal</b>		
Gold-Plated, 10-pk.	21247-409A	FREE
Siltek Treated, 10-pk.	21249-409A	FREE
<b>0.8mm ID Dual Vespel Ring Cross-Disk Inlet Seal</b>		
Gold-Plated, 10-pk.	22084-409A	FREE
Siltek Treated, 10-pk.	22086-409A	FREE

Offer ends March 31, 2010. Discount cannot be combined with any other offers.  
Distributor participation may vary.



**restek innovation!**

Visit [www.restek.com/dvr](http://www.restek.com/dvr) for all the features and benefits of this Restek innovation.

innovative chromatography solutions

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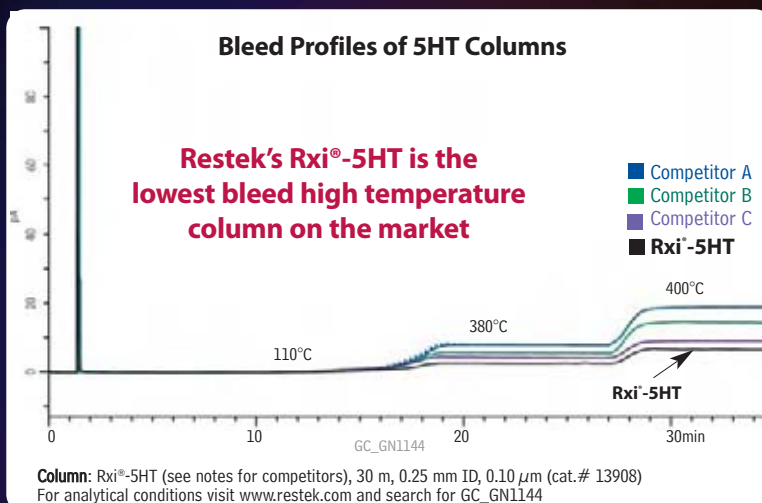


**NEW!**

**Rxi**  
GCColumns

# Looking for an Inert and Low Bleed High Temp Column? **Think Rxi®-5HT**

High temperature columns have thin films so they need to be thoroughly deactivated. Restek's Rxi® process offers better inertness and lower bleed than any other manufacturer.



Replace DB-5HT, ZB-5HT, and VF-5HT and benefit from better data and low bleed!



**High Temperature Tip:**  
Use a leak detector and carrier gas filtration to prolong column lifetime.

## Rxi®-5HT Columns

(fused silica; nonpolar phase; 5% diphenyl/95% dimethylpolysiloxane)

ID	df (µm)	temp. limits	length	cat. #	price
0.25mm	0.10	-60 to 400°C	15-Meter	13905	
0.25mm	0.10	-60 to 400°C	30-Meter	13908	
0.25mm	0.25	-60 to 400°C	30-Meter	13923	
0.32mm	0.10	-60 to 400°C	15-Meter	13906	
0.32mm	0.10	-60 to 400°C	30-Meter	13909	
0.32mm	0.25	-60 to 400°C	30-Meter	13924	
0.53mm	0.15	-60 to 400°C	30-Meter	13910	

\*Column is capable of going to 430°C, but column lifetime will be reduced.

## Accessories Great for High Temps

### Inlet Liners for Agilent GCs

ID* x OD & Length	qty.	cat.#	price
<b>4mm Split w/Wool</b>			
4.0mm x 6.3mm x 78.5mm	ea.	20781	
4.0mm x 6.3mm x 78.5mm	5-pk.	20782	
4.0mm x 6.3mm x 78.5mm	25-pk.	20783	
<b>Gooseneck Splitless (4mm)†</b>			
4.0mm x 6.5mm x 78.5mm	ea.	20798	
4.0mm x 6.5mm x 78.5mm	5-pk.	20799	
4.0mm x 6.5mm x 78.5mm	25-pk.	20800	
<b>Gooseneck Splitless (4mm) w/Wool†</b>			
4.0mm x 6.5mm x 78.5mm	ea.	22405	
4.0mm x 6.5mm x 78.5mm	5-pk.	22406	
4.0mm x 6.5mm x 78.5mm	25-pk.	22407	

\*Nominal ID at syringe needle expulsion point.

†Use this liner for increased sensitivity.

For additional product listing, visit [www.restek.com/liners](http://www.restek.com/liners)

### Compact Ferrules

for Agilent 5890/6890/6850/7890 GCs

#### Graphite Ferrules

- Stable to 450°C

Ferrule ID	Fits Column ID	qty.	Graphite
0.4mm	0.25/0.28mm	10-pk.	20250
0.4mm	0.25/0.28mm	50-pk.	20251
0.5mm	0.32mm	10-pk.	21007
0.5mm	0.32mm	50-pk.	21008
0.8mm	0.45/0.53mm	10-pk.	20252
0.8mm	0.45/0.53mm	50-pk.	20253

#### Vespal/Graphite Ferrules

- Stable to 400°C

Ferrule ID	Fits Column ID	qty.	Vespal/Graphite
0.4mm	0.25/0.28mm	10-pk.	20238
0.4mm	0.25/0.28mm	50-pk.	20239
0.5mm	0.32mm	10-pk.	20248
0.5mm	0.32mm	50-pk.	20249
0.8mm	0.45/0.53mm	10-pk.	20263
0.8mm	0.45/0.53mm	50-pk.	20264

### Super Septa!

- Usable to 400°C inlet temperature
- Partial predrilled Center Guide Design
- Bleed & temperature optimized; ideal for demanding GC and GC/MS applications

#### BTO® Septa

Usable to 400°C inlet temperature.

Septum Diameter	50-pk./price	100-pk./price
9mm CenterGuide	27104	27105
9.5mm (7/8")	27106	27107
10mm	27108	27109
11mm (7/8") CenterGuide	27110	27111
11.5mm CenterGuide	27112	27113

Visit [www.restek.com/septa](http://www.restek.com/septa) for a complete listing of septa available.



## Make Life in the Lab Easier with an MLE Capillary Tool Kit



is available for Agilent, Thermo Scientific, Shimadzu, PerkinElmer, and Varian GCs.

- Kits include everything you need to perform general maintenance on your GC.

Parts list makes reordering easy.



cat.# 22186



cat.# 22183

Visit [www.restek.com/mletoolkit](http://www.restek.com/mletoolkit)  
for a complete listing of consumables  
included in MLE tool kits.

Description	qty.	cat.#
MLE Capillary Tool Kit for Agilent GCs	kit	22186
MLE Capillary Tool Kit for PerkinElmer GCs	kit	22185
MLE Capillary Tool Kit for Shimadzu GCs	kit	22182
MLE Capillary Tool Kit for Thermo Scientific GCs	kit	22183
MLE Capillary Tool Kit for Varian GCs	kit	22184



Swagelok® Brass Fittings Kit

**NEW!**

## Swagelok® Stainless Steel & Brass Fitting kits

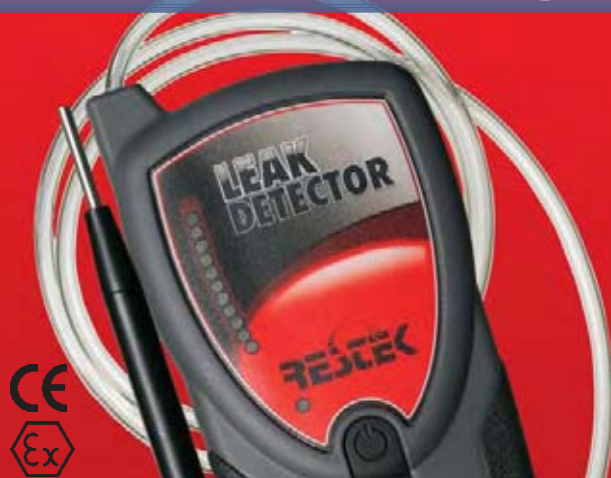
**40%** Savings by  
purchasing kits!

Description	qty.	cat.#
Swagelok Fitting Kit, Brass	kit	23141
Description	qty.	cat.#
Swagelok Fitting Kit, Stainless Steel	kit	23197

Visit us at [www.restek.com](http://www.restek.com) for  
a complete line of Swagelok® fittings!



## DETECTION



### Restek Electronic Leak Detector

**Protect your data and analytical column!**

High temperature methods are extremely sensitive to carrier gas impurities, such as water and oxygen. Make sure you have clean carrier gas and frequently check connections and injection system fittings for leaks using a Restek electronic leak detector.

**Leak Detector with Universal Charger Set**  
(US, UK, European, Australian)

Cat.# 22839

[www.restek.com/leakdetector](http://www.restek.com/leakdetector)



## REGULATION

### Ultra-High Purity (UHP) Gas Regulators

#### Dual-Stage, Chrome-Plated

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	21667
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	21668
CGA 590 (Air)	ea.	21669

#### Dual-Stage, Stainless Steel

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20662
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20663
CGA 590 (Air)	ea.	20664

#### Single-Stage, Chrome-Plated Brass

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20646
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20647
CGA 590 (Air)	ea.	20648

#### Single-Stage, Stainless Steel

Fitting	qty.	cat.#
CGA 580 (N <sub>2</sub> , He, Ar)	ea.	20665
CGA 350 (H <sub>2</sub> , P <sub>2</sub> )	ea.	20666
CGA 590 (Air)	ea.	20667



Inlet gauge: 0 to 4,000psig (0-27,579kPa)  
Outlet assembly: diaphragm valve, 1/4" tube fitting  
Outlet pressure: 0 to 100psig (0-689kPa)  
Outlet gauge: 30" - 0 to 200psig (0-1379kPa)

**Compare and SAVE!**

Visit [www.restek.com](http://www.restek.com) for more information on Gas Regulators.

## PURIFICATION

### Super-Clean Gas Filter and Base Plate Kit

**FREE Base Plate**  
with purchase of 2 triple filters

Description	qty.	cat.#
Restek Exclusive Triple Filter Kit: includes 2 triple filters & free base plate	kit	22859-409

Offer valid through Dec. 31, 2010. Cannot be combined with other offers or discounts.



visit [www.restek.com](http://www.restek.com) for all your chromatography needs

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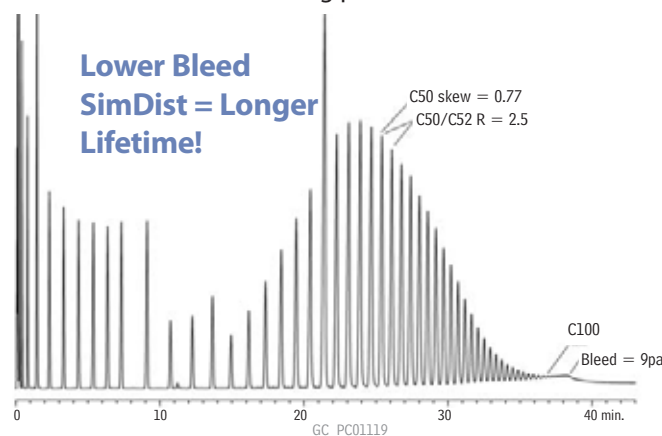
Get more runs out of  
your Sim Dist setup, using

**NEW!**

# Restek MXT®-1HT Sim Dist columns

- Stable up to 430°C—lowest bleed column, for longer lifetime.
- Meets all ASTM D6352 and D7500 specifications.
- 100% dimethyl polysiloxane phase allows easy comparisons to historical data.
- Unbreakable columns offer security when using hydrogen.

Superior resolution and peak shape on MXT®-1HT SimDist columns result in more accurate final boiling point determinations.



Column: MXT®-1HT Sim Dist, 5m, 0.53mm ID,  
0.20µm (cat.# 70115)  
Sample: C5-C100, 1% in carbon disulfide  
Inj.: 1µL on-column (PTV)  
Inj. temp.: 53°C to 430°C @ 10°C/min. (hold 5 min.)

Carrier gas: helium, constant flow  
Flow rate: 18mL/min.  
Oven temp.: 50°C to 430°C @  
10°C/min. (hold 5 min.)  
Det.: FID @ 430°C  
Instrument: Shimadzu 2010

**RESTEK**  **REFINED**  
New Solutions for Your Petro Analyses



## Petro Analyses Tip:

- Use our **D6352 polywax** standards for your analysis
- Use **graphite ferrules** for column installation

## MXT®-1HT Sim Dist Column

(Siltek® treated stainless steel)

ID	df (µm)	temp. limits	length	cat. #
0.53mm	0.10	-60 to 400/430°C	5-Meter	70112
0.53mm	0.20	-60 to 400/430°C	5-Meter	70115

For additional column dimensions visit [www.restek.com](http://www.restek.com)



## Air Canisters for VOC Monitoring

### SilcoCan® & TO-Can® Air Monitoring Canisters

- Get high performance canisters from the innovators of fused silica coating technology.
- Variety of options available, including SUMMA can equivalent.
- Standard fittings compatible with all instrumentation and accessories.
- Exclusive manufacturer of 1L spherical canister.
- Repair service available to extend canister life.

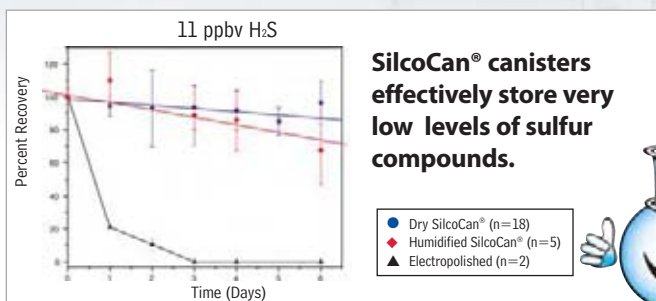


#### Canister Options

Sizes	1, 3, 6, 15L
Valves	Parker diaphragm, Swagelok bellows
Interior Coating	Electropolished, Siltek treated
Gauges	3 vacuum/pressure ranges

#### Applications

Ambient Air - US EPA TO-14A, TO-15, ASTM D5466
Indoor Air
Vapor Intrusion
Emergency Response



Visit [www.restek.com/air](http://www.restek.com/air) for a full air canister product listing!

## Need Tedlar Bags? Restek has them!

We are your **RELIABLE** source  
for Tedlar® Sampling Bags.

No need to evaluate alternatives,  
our Tedlar® bag supply is **here to stay!**



**NEW!**

## Air Canister Tripod

For collocated ambient air sampling



- Holds most 1L, 3L, and 6L canisters securely, without any tools.
- Lightweight (9 pounds) and compact, for easy storage and transport.
- Large base provides enhanced stability, without additional supports.

Description	qty.	cat.#
Air Canister Tripod	ea.	24151

#### PATENTS & TRADEMARKS

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visit [www.restek.com/air](http://www.restek.com/air) for more innovative air monitoring solutions 15



## QuEChERS Products

Quick, Easy, Cheap, Effective, Rugged and Safe!

### Tubes & Standards

for pesticide residue analysis from food products



NEW!

### Complete Product Offering

to support AOAC (2007.01)  
& European (EN15662)  
QuEChERS Methods

- Comprehensive portfolio of QuEChERS tubes.
- Method-specific internal and QC standards.
- Rxi®-5Sil MS Capillary column
- Ultra Aqueous C18 LC Column.

**RESTEK**

Lit. Cat.# GNES1216-INT

2010 v.1

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ISO 9001:2000  
cert. # FM80397