

**NEW!**

# ZB-SemiVolatiles

with Enviro-Inert™ Technology

“ This column has REDUCED  
TestAmerica’s DOWNTIME and  
INCREASED our PRODUCTIVITY ”

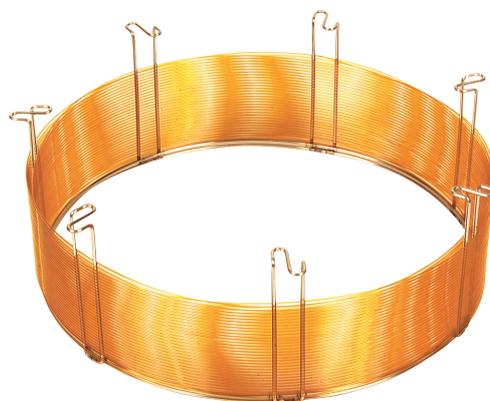
- TestAmerica Laboratories, Inc. Buffalo



# Introducing the Zebron™ Experience

## Proven Performance

Zebron GC columns are engineered by expert Phenomenex GC scientists that created key J&W technologies. Our inventive philosophy and expertise in GC column manufacturing allow us to continuously develop award-winning column chemistries. We provide best-in-class technologies and support to make your analysis easier – let the Zebron experience put you first.



## Our Customers Come First

### Complimentary Services:

- Column and accessory selection support
- Method optimization assistance for environmental analyses like EPA Method 8270D
- Thousands of resources and applications online



“ Phenomenex has always given superb customer support. I changed suppliers from...Agilent to Phenomenex based on your customer support...about 10 years ago and you have not failed me since that point!

”

Marie Coschigano, Genzyme Corporation

## Continuing Innovation

Zebron's track record of innovation has been recognized with 3 R&D 100 Awards. No other GC columns have received this honor.



# ZB-SemiVolatiles: Designed For Real-World Performance

## You Spoke

Your input fueled the research and development of Zebron™ ZB-SemiVolatiles – the column specifically designed to overcome your EPA Method 8270D obstacles.

## You Tested

Several environmental labs verified real-world performance on ZB-SemiVolatiles:

- TestAmerica Laboratories, Inc. Buffalo
- Phoenix Environmental Laboratories, Inc.
- Other labs like yours!

## You Approved

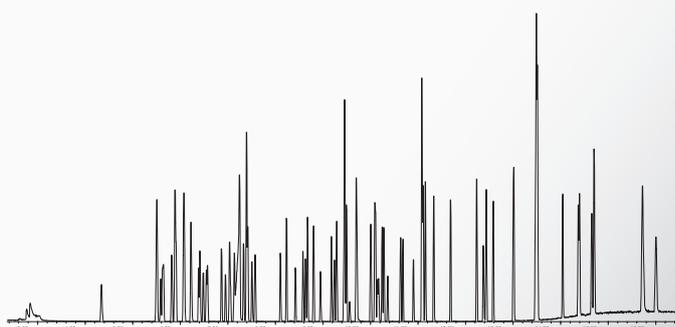
“...superior in quality and durability than any other columns we have previously used.”

- TestAmerica Laboratories, Inc.  
p. 11

### EPA Method 8270D on ZB-SemiVolatiles

“ Zebron ZB-SemiVolatiles is a very stable and durable semi-volatile column. This has reduced TestAmerica’s downtime and increased our productivity, enabling us to better serve our clients’ needs. ”

David Wilkes, GC/MS Semi-Volatile Department  
TestAmerica Laboratories, Inc. Buffalo



**Real Customer Results For**  
EPA Method 8270D on ZB-SemiVolatiles

## Ready to Learn More?

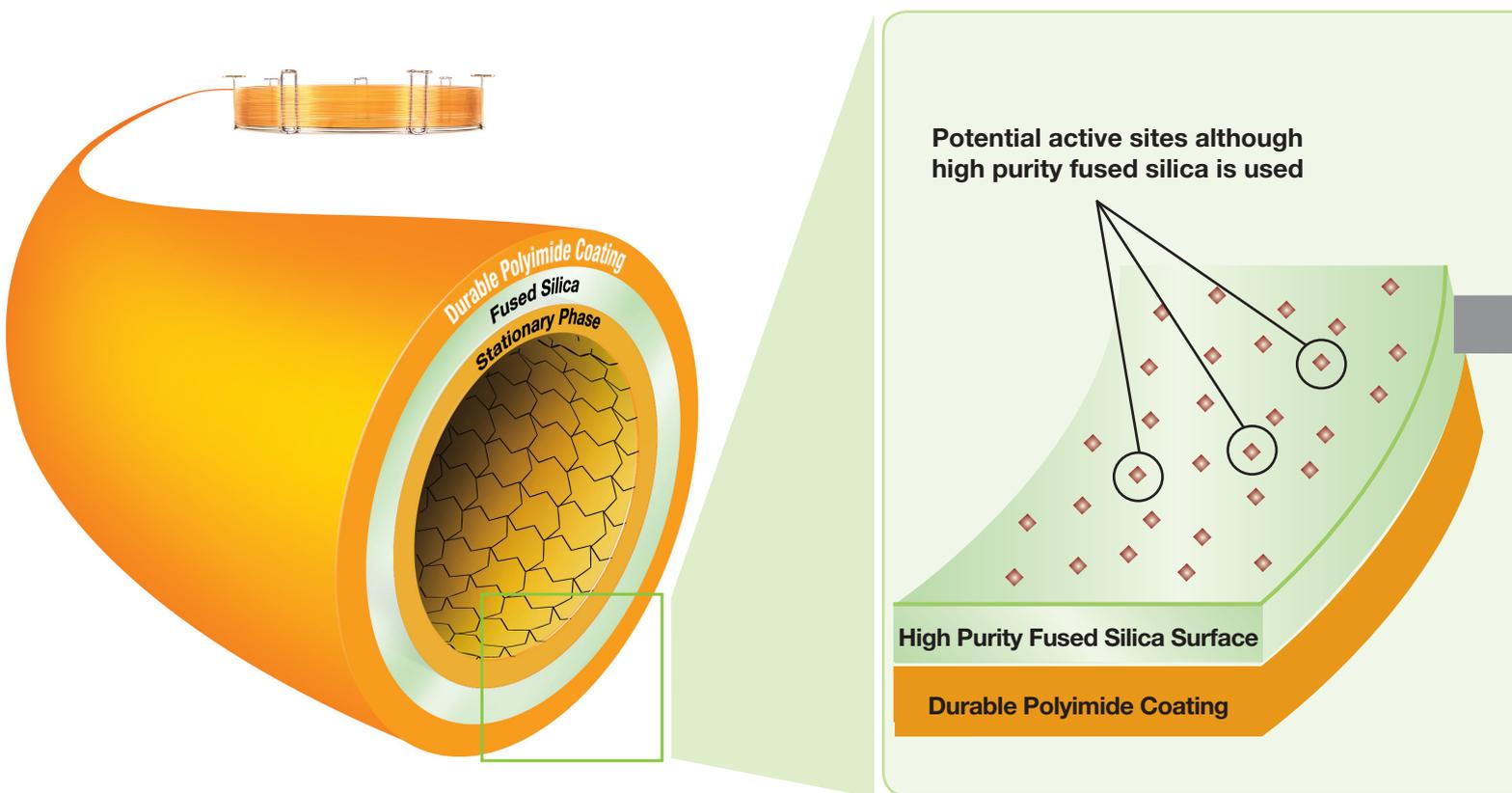
- p. 4 How It's Different
- 6 Meet 8270D Requirements Out-of-the-Box
- 8 Industry Leaders Put To Our QC Test
- 10 Enhance 8270D Results
- 11 Hold Calibrations and Increase Productivity
- 12 Additional Applications
- 15 Ordering Information

# Enviro-Inert™ Technology: A New Generation In Environmental Testing

## Why Is Reduced Activity Important?

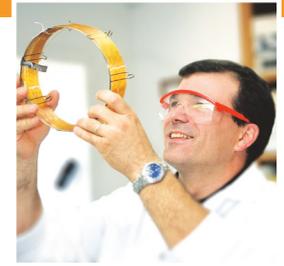
Poor inertness as a result of increased column activity can lead to low acid/base sensitivity or analyte misidentification, causing incorrect data and big headaches! ZB-SemiVolatiles is designed with new Enviro-Inert technology to ensure:

- Inert, rugged performance without compromising separation
- Improved resolution of key critical pairs like Benzo[b]fluoranthene and Benzo[k]fluoranthene
- Better peak shapes and response for acids, amines, and PAHs



“ From the activation conditions and the deactivation process to the polymer coating techniques, we’ve manufactured our new proprietary bonding technology to deliver columns specifically designed to be more inert, rugged, and resilient for semivolatiles methods like EPA 8270D. ”

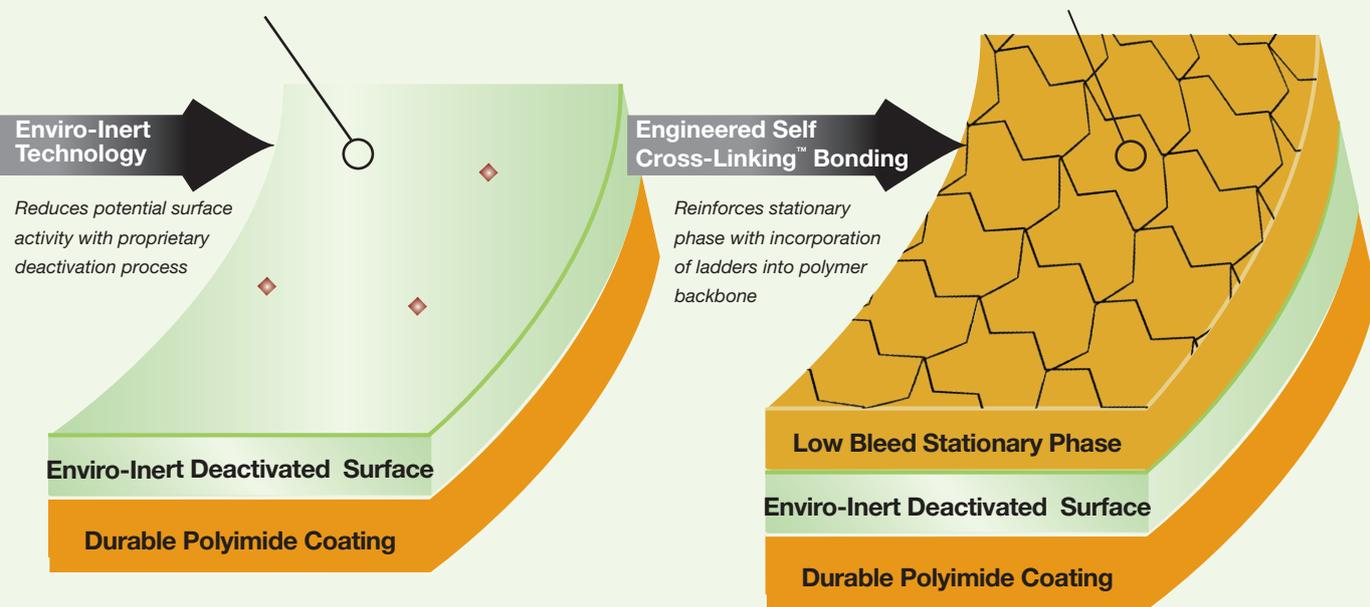
Jim Archer, Phenomenex GC R&D Chemist  
11 years J&W, 20+ years GC experience



## Enviro-Inert Technology Improves Inertness Without Changing Selectivity

Clean, highly inert surface for semivolatiles due to fewer active sites

Very low bleed 5 % phenyl-arylene stationary phase is applied to the Enviro-Inert surface



### Guaranteed.

No retention time shifts when switching from other 5 % phenyl-arylene columns.

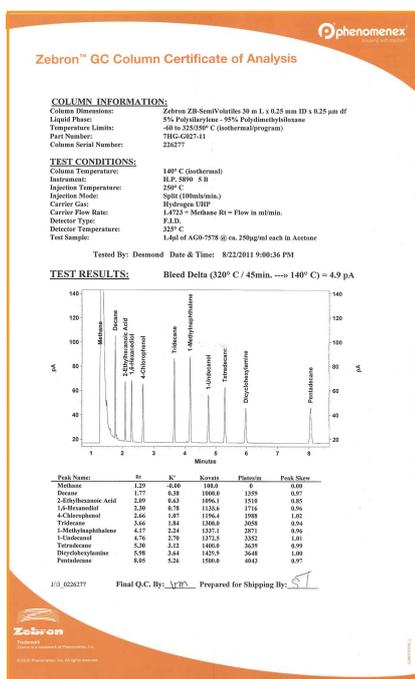
# Meet 8270D Requirements Out-of-the-Box

## We QC Test For the Compounds You Analyze

We take the guesswork out of meeting method requirements by aggressively testing ZB-SemiVolatiles with two different test mixes. We incorporated troublesome analytes from your samples and compounds in the 8270D tuning standard into our QC test, so you can be sure your column is ready to meet suitability requirements for the method.

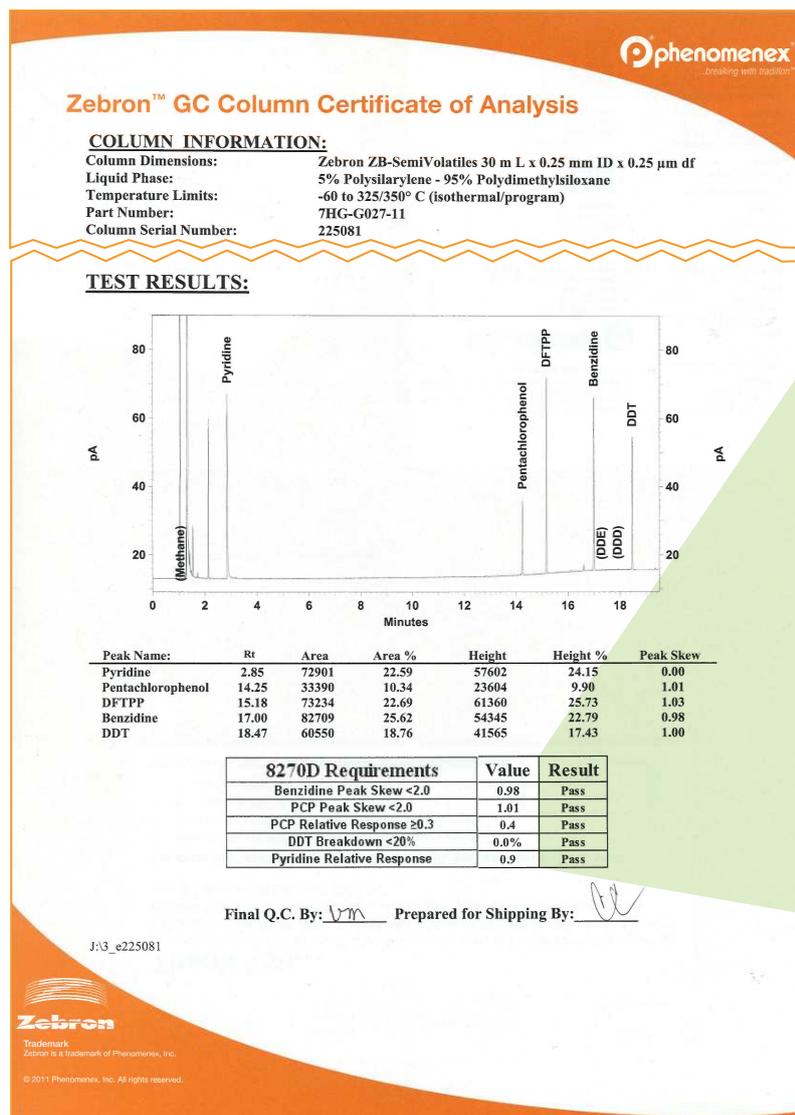
### QC TEST 1: Standard Zebtron™ QC Test Mix

Rigorous test for Efficiency, Bleed, Activity, and Retention



### QC TEST 2: ZB-SemiVolatiles Performance QC Test Mix

Includes the GC/MS tuning standard for EPA Method 8270D (DDT, Pentachlorophenol, and Benzidine) and Pyridine, a more sensitive probe for column activity.



Final Q.C. By: *VM* Prepared for Shipping By: *W*

J:\3\_e225081



Trademark  
Zebtron is a trademark of Phenomenex, Inc.

© 2011 Phenomenex, Inc. All rights reserved.

## ZB-SemiVolatiles Performance QC Test Criteria

### Pyridine (PYR)

Pyridine is a very active amine, which exposes even the smallest amount of column activity. We added pyridine to our QC test to ensure that our specially deactivated column performs at the highest possible level, even for your most difficult basic compounds.

#### Peak Response Criteria

- EPA 8270D Requirement: Not Specified
- Our Requirement:  $\geq 0.6^*$



### Pentachlorophenol (PCP)

Pentachlorophenol peaks disappear and exhibit tailing on active columns, so it is important to measure their relative responses and peak skews to ensure column performance.

#### Peak Shape Criteria

- EPA 8270D Requirement:  $\leq 2.0$
- Our Requirement:  $\leq 2.0$

#### Peak Response Criteria

- EPA 8270D Requirement: Not Specified
- Our Requirement:  $\geq 0.3$



### Benzidine

Benzidine is another active amine that tails when column activity is present, complicating peak quantification. We require ZB-SemiVolatiles columns to meet EPA 8270D peak skew requirements for this compound prior to shipment.

#### Peak Shape Criteria

- EPA Requirement:  $\leq 2.0$
- Our Requirement:  $\leq 2.0$



### DDT

DDT breaks down in an active system to DDE and DDD. With our QC test, you are assured that your column will meet the EPA requirements upon installation.

#### Breakdown Criteria

- EPA 8270D Requirement:  $< 20\%$
- Our Requirement:  $< 20\%$

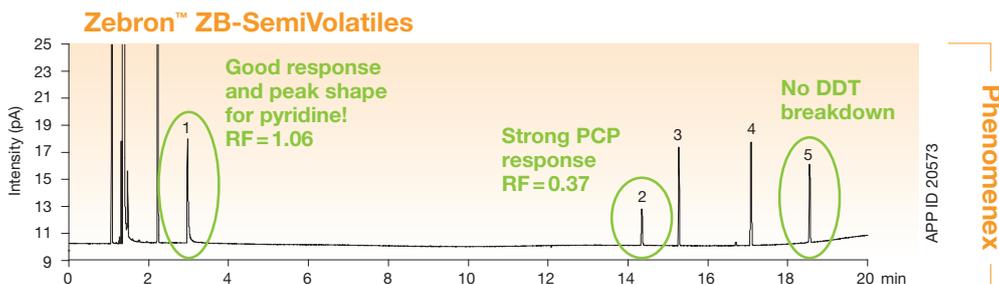


\*Requirement of 0.5 for 60m x 0.25mm x 0.25 $\mu$ m and 10m Guardian™ dimensions

# Depend on the Industry's Most Stringent QC Specifications

## Leading Competitor Columns Put to <sup>OUR</sup> the Test

Our QC test exposed poor performance for key compounds on competing columns. Enviro-Inert™ technology improves inertness, so you experience increased responses, lower limits of detection (LOD), and virtually no breakdown when using a ZB-SemiVolatiles GC column.

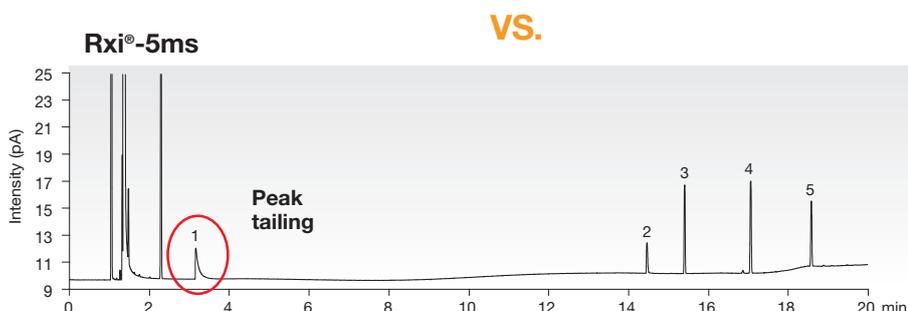


Phenomenex

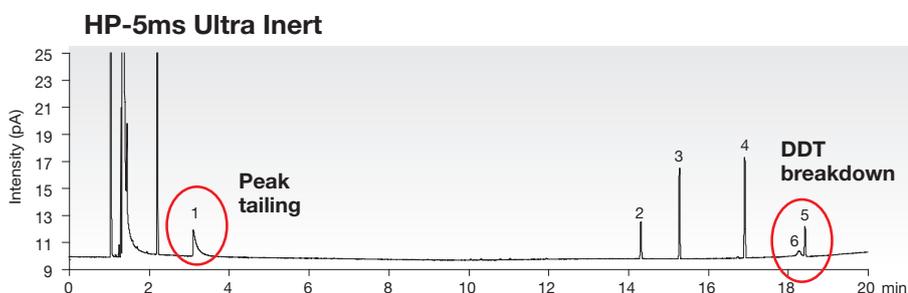
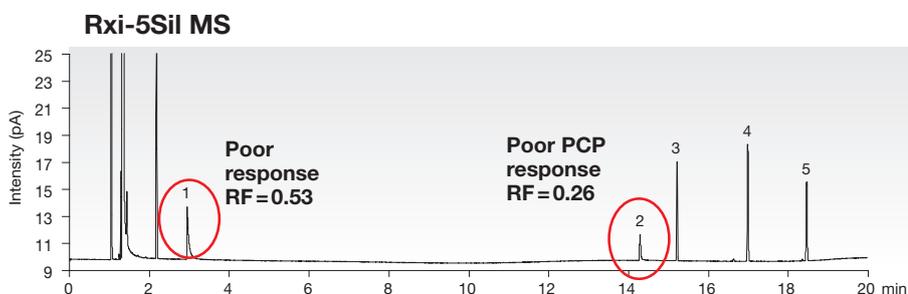
### Response Factor (RF)

	PYR	PCP
ZB-SemiVolatiles	1.06	0.37
Rxi-5ms	0.34	0.34
Rxi-5Sil MS	0.53	0.26
HP-5ms Ultra Inert	0.28	0.40
DB-5ms Ultra Inert	0.66	0.20

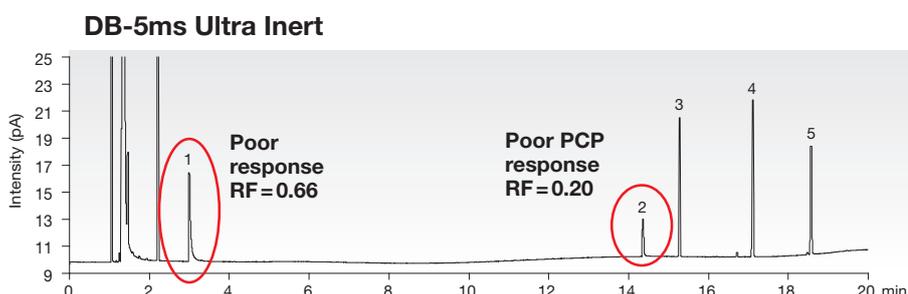
RF is calculated by dividing peak height of analyte by peak height of DFTPP as internal standard.



Restek



Agilent



#### Conditions for all columns:

**Dimensions:** 30 meter x 0.25 mm x 0.25 μm

**Injection:** Split 100:1 @ 175 °C, 1 μL

**Carrier Gas:** Hydrogen @ 40 cm/sec (constant pressure)

**Oven Program:** 40 °C for 2 min to 300 °C @ 15 °C/min for 3.5 min

**Detector:** FID @ 325 °C

**Sample:** Analytes are 20 ppm in Acetone

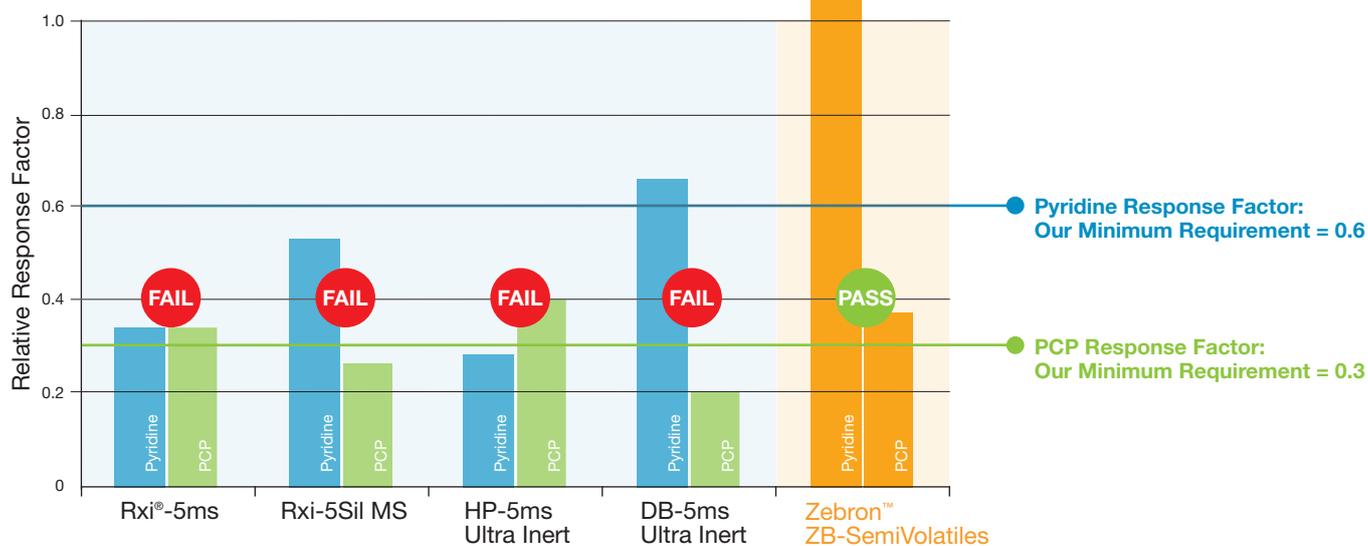
1. Pyridine
2. Pentachlorophenol
3. DFTPP
4. Benzidine
5. DDT
6. DDD

Rxi is a registered trademark of Restek Corp. Phenomenex is in no way affiliated with Restek Corp. Conditions were the same for all columns tested. Comparative separations are not representative of all applications.

## Competing Columns Fail Our Stringent QC Requirements

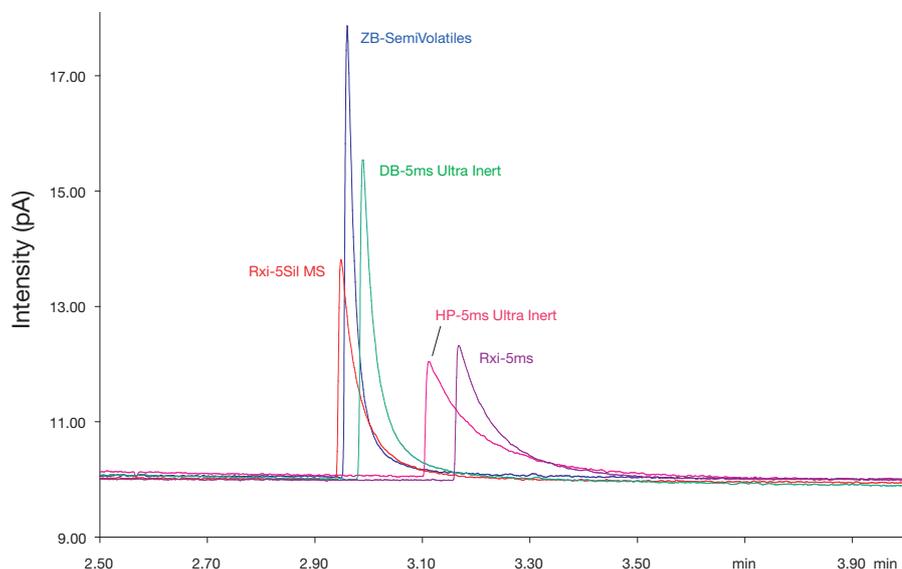
As part of our QC requirements, columns must meet minimum Pyridine and Pentachlorophenol responses. Each of the four competitor columns would have been failed by our QC department and would not have shipped to our customers.

### QC Test Mix Results: Pyridine and PCP Response Levels



### Why Is Pyridine Response Important?

Pyridine is a very active amine and a good indicator for both column lifetime and sensitivity. Columns with higher initial peak responses can be expected to maintain performance over time. Additionally, higher responses allow you to run at lower levels of detection, improving the sensitivity of your analysis.



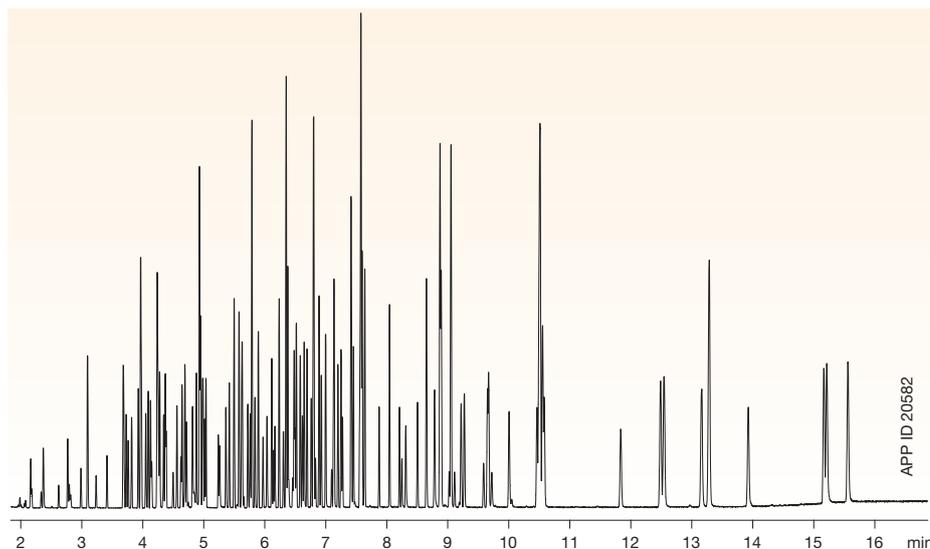
Rxi is a registered trademark of Restek Corp. Phenomenex is in no way affiliated with Restek Corp. Conditions were the same for all columns tested. Comparative separations are not representative of all applications.

# Enhance Your EPA Method 8270D Results

## Great Resolution of Key Critical Pairs and Improved Peak Shapes

Enviro-Inert™ technology allows Zebtron™ ZB-SemiVolatiles to provide improved productivity with shorter run times for EPA 8270D, while maintaining resolution of key critical pairs.

### EPA Method 8270D: Semivolatile Organic Compounds

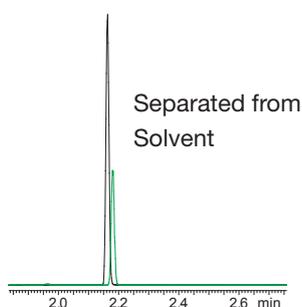


**Column:** Zebtron ZB-SemiVolatiles  
**Dimensions:** 30 meter x 0.25 mm x 0.25 μm  
**Part Number:** 7HG-G027-11  
**Injection:** Split 10:1 @ 280 °C, 1 μL  
**Carrier Gas:** Helium @ 1.4 mL/min (constant flow)  
**Oven Program:** 40 °C for 0.5 min to 260 °C @ 40 °C/min to 295 °C @ 6 °C/min to 325 °C @ 25 °C/min for 2 min  
**Detector:** MSD @ 340 °C; 45 – 450 amu  
**Sample:** Analytes are 25 ppm in Dichloromethane  
**Liner:** AGO-8499 (Single Taper with Wool)  
**Septum:** AGO-4697 (PhenoRed™ 400)  
**Inlet Seal:** AGO-8620 (Easy Seals™ Inlet Base Seal)

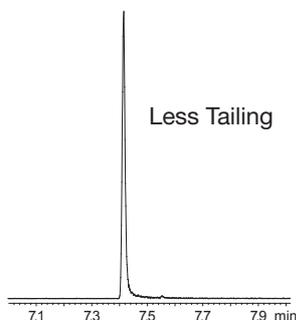
See the full compound list at [www.phenomenex.com/GC](http://www.phenomenex.com/GC)

#### Running A Splitless Injection?

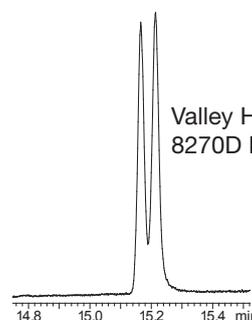
Use a Direct Connect bottom side-hole liner (AGO-7850) to improve reproducibility and response. See more recommended accessories on p. 14.



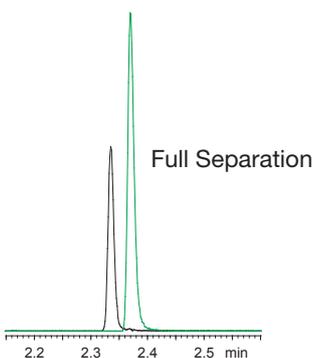
Separated from Solvent  
**1,4-Dioxane-D8 and 1,4-Dioxane**



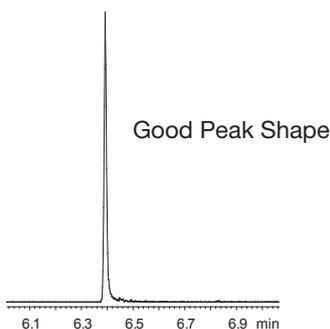
Less Tailing  
**Pentachlorophenol**



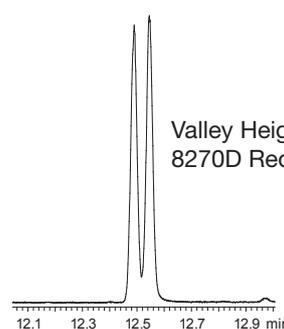
Valley Height = 20.9 %  
 8270D Requires ≤ 50 %  
**Indeno[1,2,3-cd]pyrene and Dibenz[a,h]anthracene, both share mass 276**



Full Separation  
**N-Nitrosodimethylamine and Pyridine**



Good Peak Shape  
**2,4-Dinitrophenol**



Valley Height = 9.9 %  
 8270D Requires ≤ 50 %  
**Benzo[b]fluoranthene and Benzo[k]fluoranthene**

# Hold Calibrations and Increase Productivity

## Stands Up to Tough Samples for Increased Lifetime

“ I have found the Phenomenex ZB-SemiVolatiles columns to be superior in quality and durability than any other columns we have previously used. The columns not only last longer, but the reproducibility of column is extraordinary. The column holds calibrations particularly well, even after multiple injections of samples with far less than desirable matrices. All of this equates to less downtime and maintenance and more productivity for TestAmerica. ”

Ryan McKernan, GC/MS Semi-Volatile Analyst  
TestAmerica Laboratories, Inc. Buffalo

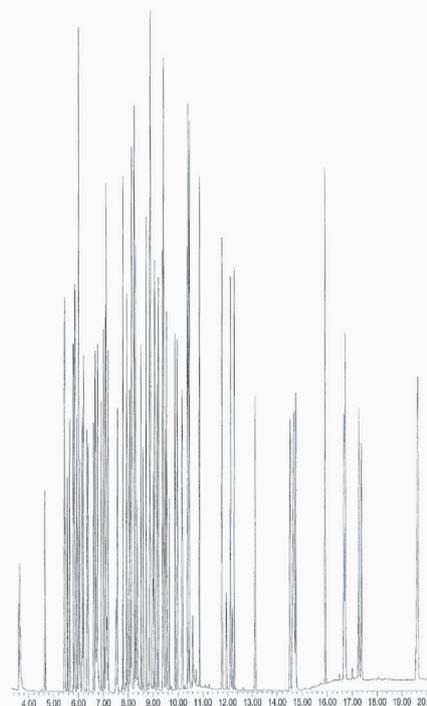


## Improve Resolution, Decrease Runtime

“ We made the switch to the ZB-SemiVolatiles column for an increase in performance for separating pyridine and n-nitrosodimethylamine. The improved peak shape has dramatically decreased the %RSD in our calibration curve. ”

Additionally, we have seen an increase of peak separation for aniline and bis(2-chloroethyl) ether. This has allowed for us to decrease run times while seeing excellent peak resolution without sacrificing quality, something I strive for as an analyst. ”

Senior Organic Chemist  
Phoenix Environmental Laboratories, Inc.

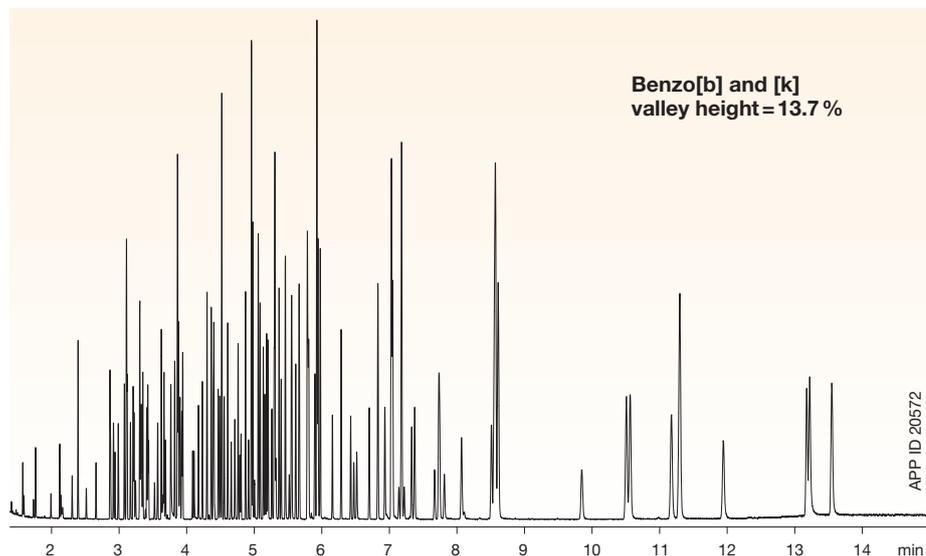


### Share With Us

We want to know what you think about Zebtron ZB-SemiVolatiles. Let us know at [www.phenomenex.com/WeListen](http://www.phenomenex.com/WeListen)

# EPA Method 8270D and Beyond

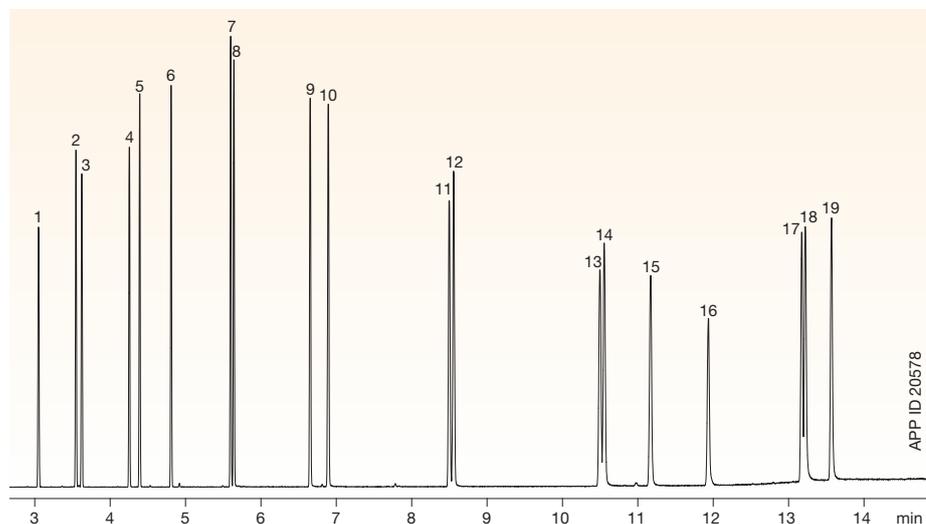
## Fast 8270D - 135 Compounds in Under 14 Minutes!



**Column:** Zebtron ZB-SemiVolatiles  
**Dimensions:** 20 meter x 0.18 mm x 0.36  $\mu$ m  
**Part Number:** 7FD-G027-53  
**Dimensions:** 20 meter x 0.18 mm x 0.36  $\mu$ m  
**Injection:** Split 10:1 @ 300 °C, 1  $\mu$ L  
**Carrier Gas:** Helium @ 1.5 mL/min (constant flow)  
**Oven Program:** 40 °C for 0.5 min to 260 °C @ 40 °C/min to 295 °C @ 6 °C/min to 325 °C @ 25 °C/min for 2 min  
**Detector:** MSD @ 340 °C; 45 – 450 amu  
**Sample:** Analytes are 25 ppm in Dichloromethane  
**Liner:** AGO-8499 (Single Taper with Wool)  
**Septum:** AGO-4697 (PhenoRed™ 400)  
**Inlet Seal:** AGO-8620 (Easy Seals™ Inlet Base Seal)

See the full compound list at  
[www.phenomenex.com/GC](http://www.phenomenex.com/GC)

## Polycyclic Aromatic Hydrocarbons (PAHs)



**Column:** Zebtron ZB-SemiVolatiles  
**Dimensions:** 30 meter x 0.25 mm x 0.25  $\mu$ m  
**Part Number:** 7HG-G027-11  
**Injection:** Split 10:1 @ 280 °C, 1  $\mu$ L  
**Carrier Gas:** Helium @ 1.4 mL/min (constant flow)  
**Oven Program:** 100 °C for 0.5 min to 260 °C @ 30 °C/min to 295 °C @ 6 °C/min to 325 °C @ 25 °C/min for 2 min  
**Detector:** MSD @ 340 °C; 45 – 450 amu  
**Sample:** Analytes are 25 ppm in Dichloromethane

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. Benzo[b]fluoranthene
14. Benzo[k]fluoranthene
15. Benzo[a]pyrene
16. 3-Methylcholanthrene
17. Indeno[1,2,3-cd]pyrene
18. Dibenzo[a,h]anthracene
19. Benzo[g,h,i]perylene

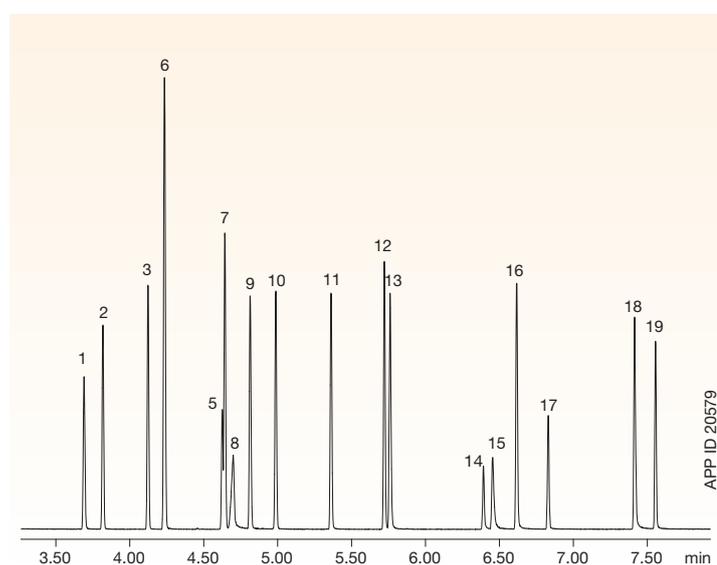
### Need Resolution of Benzo[b], [j], and [k]?

You can get separation of all three compounds on a Zebtron™ ZB-35!  
Download the full application note at [www.phenomenex.com/GC](http://www.phenomenex.com/GC)

## Want More Applications?

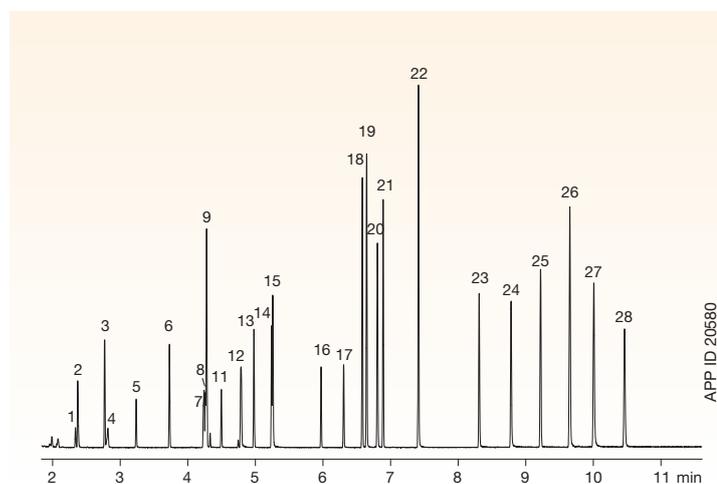
Free technical tips, guides, and hundreds of applications are at [www.phenomenex.com/GC](http://www.phenomenex.com/GC)

## Phenols



**Column:** Zebron ZB-SemiVolatiles  
**Dimensions:** 30 meter x 0.25 mm x 0.25  $\mu$ m  
**Part Number:** 7HG-G027-11  
**Injection:** Split 10:1 @ 280 °C, 1  $\mu$ L  
**Carrier Gas:** Helium @ 1.4 mL/min (constant flow)  
**Oven Program:** 40 °C for 0.5 min to 260 °C @ 30 °C/min to 295 °C @ 6 °C/min to 325 °C @ 25 °C/min for 2 min  
**Detector:** MSD @ 340 °C; 45 – 450 amu  
**Samples:** Analytes are 25 ppm in Dichloromethane  
1. Phenol  
2. 2-Chlorophenol  
3. 2-Methylphenol  
4. 4-Methylphenol  
5. 3-Methylphenol  
6. 2-Nitrophenol  
7. 2,4-Dimethylphenol  
8. Benzoic Acid  
9. 2,4-Dichlorophenol  
10. 2,6-Dichlorophenol  
11. 4-Chloro-3-methylphenol  
12. 2,4,6-Trichlorophenol  
13. 2,4,5-Trichlorophenol  
14. 2,4-Dinitrophenol  
15. 4-Nitrophenol  
16. 2,3,4,6-Tetrachlorophenol  
17. 2-Methyl-4,6-dinitrophenol  
18. Pentachlorophenol  
19. Dinoseb

## Amines



**Column:** Zebron ZB-SemiVolatiles  
**Dimensions:** 30 meter x 0.25 mm x 0.25  $\mu$ m  
**Part Number:** 7HG-G027-11  
**Injection:** Split 10:1 @ 280 °C, 1  $\mu$ L  
**Carrier Gas:** Helium @ 1.4 mL/min (constant flow)  
**Oven Program:** 40 °C for 0.5 min to 260 °C @ 40 °C/min to 295 °C @ 6 °C/min to 325 °C @ 25 °C/min for 2 min  
**Detector:** MSD @ 340 °C; 45 – 450 amu  
**Samples:** Analytes are 25 ppm in Dichloromethane  
1. N-Nitrosodimethylamine  
2. Pyridine  
3. 2-Picoline  
4. N-Nitrosomethylethylamine  
5. N-Nitrosodiethylamine  
6. Aniline  
7. N-Nitrosopyrrolidine  
8. N-Nitrosodi-n-propylamine  
9. N-Nitrosomorpholine  
10. o-Toluidine  
11. N-Nitrosopiperidine  
12.  $\alpha,\alpha$ -Dimethylphenethylamine  
13. 4-Chloroaniline  
14. N-Nitrosodi-n-butylamine  
15. p-Phenylenediamine  
16. 2-Nitroaniline  
17. 3-Nitroaniline  
18. 1-Naphthylamine  
19. 2-Naphthylamine  
20. 4-Nitroaniline  
21. Diphenylamine  
22. 4-Aminobiphenyl  
23. Methapyriline  
24. Benzidine  
25. o-Tolidine  
26. p-Dimethylaminoazobenzene  
27. 2-Acetylaminofluorene  
28. 3,3'-Dichlorobenzene

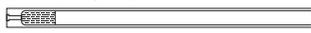
### Speed It Up With Fast GC!

Increase throughput and maintain resolution using the 20 meter ZB-SemiVolatiles GC column. Find fast applications for PAHs, Phenols, and Amines online at [www.phenomenex.com/GC](http://www.phenomenex.com/GC)

# GC Accessories Recommended for EPA Method 8270D

## Liners

### Liners for Agilent Technologies (HP) GC Systems

Description	Benefits / Uses	GC Model No.	Dimensions		Units	Similar to Mfr. No.**	Part No.	Unit	Price								
			ID x L x OD (mm)														
Split / Splitless, FocusLiner™ Single Taper with wool 	General use or dirty samples	5880/5890/ 6890/7890	4 x 78.5 x 6.3		ea 5/pk 25/pk	5183-4711 5183-4712 5183-4713	20994 20995 20996	-	5/pk 25/pk								
										Splitless, Single Taper Liner with wool 	Large injection, trace analysis	5880/5890/ 6890/7890	4 x 78.5 x 6.45	5/pk	5183-4693	-	5/pk
Single Taper Direct Connect with Side Hole (top) 	Great recovery and linearity for trace analysis of active compounds	5880/5890/ 6890/7890	4 x 78.5 x 6.3	ea 5/pk 25/pk	G1544 21054 21055 20998	- 21054 21055 -	- 5/pk -										

Column Installs This End

### Liners for Shimadzu GC Systems

Description	Benefits / Uses	GC Model No.	Dimensions		Units	Similar to Mfr. No.**	Part No.	Unit	Price
			ID x L x OD (mm)						
Split/Splitless Single Taper / Gooseneck Tapered FocusLiner with wool 	Great recovery and linearity for trace analysis of active compounds	17A, 17B, 2010, 2014	3.4 x 95 x 5		-	092068	AGO-4683	5/pk	
Splitless Straight Liner 	Small injection, trace analysis	17A, 17B, 2010, 2014	2.6 x 95 x 5		-	-	AGO-4667	5/pk	

Note: Large injection ≥ 2 µL. Small injection ≤ 2 µL. \*\* Similar to but not always an exact equivalent to the original manufacturer's product.

## Easy Seals™ for Agilent GCs

- Soft surface eliminates need for washer
- Minimal torque required to form tight seal
- Increase column lifetime



### Easy Seals

Part No.	Description	Unit	Price
<b>Standard, single groove for splitless applications, 0.8 mm dia. inlet hole</b>			
AGO-8619	Easy Seals Inlet Base Seal, Gold Plated, for Agilent GCs	2/pk	
AGO-8620	Easy Seals Inlet Base Seal, Gold Plated, for Agilent GCs	10/pk	



## Ferrules

### Long Ferrules

Composition	GC Column ID (mm)	Ferrule ID (mm)	Similar to Mfr. No.*	Part No.	Pre-conditioned	Unit	Price
85 % Vespel® / 15 % Graphite	0.10-0.25	0.4	07663				
			5062-3508	AGO-8677	Y	10/pk	
60 % Vespel / 40 % Graphite	0.10-0.25	0.4	20211	AGO-4707	Y	10/pk	
			20229	AGO-4708		50/pk	

\* Similar to but not always an exact equivalent to the original manufacturer's product.

## Cool-Lock™ Nut

### Fast GC Column Installation Without the Burn

- Avoid burning your fingers – cools with the oven
- Increased reproducibility—locks insertion depth before installation
- No need for wrench with hand-tightened connections
- No more Wite-Out®, Tipp-Ex®, or septa pieces!



Patented Technology  
U.S. Patent No. 8, 062, 516

### Cool-Lock GC Capillary Nut For Agilent GC Systems\*

Part No.	Description	Unit	Price
AGO-8319	Cool-Lock GC Capillary Nut For Use With Short-Style Ferrules	ea	
AGO-8320	Cool-Lock GC Capillary Nut For Use With Long-Style Ferrules	ea	

\* Guaranteed fit for Agilent 5850, 5890, 6850, 6890, and 7890 GC systems  
Note: Cool-Lock GC Capillary Nut also available for Shimadzu GC systems, Part No. AGO-8419



## Septa

### GuideRight Injection Hole Septa

Part No.	Description	Diameter	Unit	Price
<b>PhenoRed™ 400 GuideRight™ Injector Hole Septa</b>				
AGO-7916	PhenoRed 400, 400 °C	3/8 in. (9.5 mm)	50/pk	
AGO-7917	PhenoRed 400, 400 °C	7/16 in. (11 mm)	50/pk	



This is a partial list of accessories available – contact your GC Specialist for more or request your copy of the GC Accessories Solutions Guide at [www.phenomenex.com/GC](http://www.phenomenex.com/GC)

# Ordering Information



## Zebtron™ ZB-SemiVolatiles GC Columns

ID (mm)	df (µm)	Temperature Limits (°C)	Part No.	Price
<b>20-Meter</b>				
0.18	0.18	-60 to 325/350	7FD-G027-08	
0.18	0.36	-60 to 325/350	7FD-G027-53	
<b>30-Meter</b>				
0.25	0.25	-60 to 325/350	7HG-G027-11	
0.25	0.50	-60 to 325/350	7HG-G027-17	
<b>60-Meter</b>				
0.25	0.25	-60 to 325/350	7KG-G027-11	



If Zebtron columns do not provide you with equivalent or better separations as compared to any other GC column of the same phase and comparable dimensions, return the column with comparative data within 45 days for a FULL REFUND.

## Zebtron ZB-SemiVolatiles GC Columns with Guardian™ Integrated Guard Columns

### Guardian: Integrated Guard Columns

GC Column Phase	Dimensions	Temperature Limits	5 m Guardian Part No.	Price	10 m Guardian Part No.	Price
<b>Zebtron ZB-SemiVolatiles</b>						
Zebtron ZB-SemiVolatiles	30 meter x 0.25 mm x 0.25 df(µm)	-60 to 325/350	7HG-G027-11-GGA		7HG-G027-11-GGC	

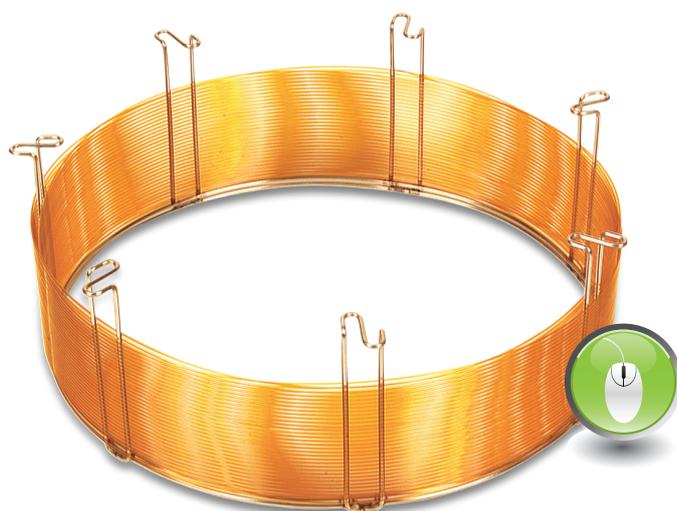
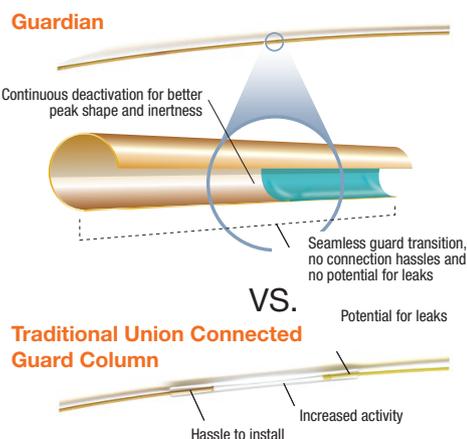
## Built-In Column Protection with Guardian

ZB-SemiVolatiles columns equipped with Guardian have the guard column portion built directly into the analytical column in one continuous length of tubing.

- Minimal effect on chromatography
- Quick set-up and simple installation
- Eliminate the potential for leaks
- Extend column lifetimes



## No Leaks, No Worries!



## Order Online for Exclusive Savings!

You may qualify for new special offers! Just sign in or register for a Phenomenex account to start saving today!

[www.phenomenex.com/GC](http://www.phenomenex.com/GC)



# ZB-SemiVolatiles with Enviro-Inert™ Technology

“ This column has REDUCED  
TestAmerica's DOWNTIME and  
INCREASED our PRODUCTIVITY ”

- TestAmerica Laboratories, Inc. Buffalo

#### Australia

t: 02-9428-6444  
f: 02-9428-6445  
auinfo@phenomenex.com

#### Austria

t: 01-319-1301  
f: 01-319-1300  
anfrage@phenomenex.com

#### Belgium

t: +31 (0)30-2418700  
f: +31 (0)30-2383749  
beinfo@phenomenex.com

#### Canada

t: (800) 543-3681  
f: (310) 328-7768  
info@phenomenex.com

#### Denmark

t: 4824 8048  
f: +45 4810 6265  
nordicinfo@phenomenex.com

#### Finland

t: 09 4789 0063  
f: +45 4810 6265  
nordicinfo@phenomenex.com

#### France

t: 01 30 09 21 10  
f: 01 30 09 21 11  
franceinfo@phenomenex.com

#### Germany

t: 06021-58830-0  
f: 06021-58830-11  
anfrage@phenomenex.com

#### India

t: 040-3012 2400  
f: 040-3012 2411  
indiainfo@phenomenex.com

#### Ireland

t: 01 247 5405  
f: +44 1625-501796  
eireinfo@phenomenex.com

#### Italy

t: 051 6327511  
f: 051 6327555  
italiainfo@phenomenex.com

#### Luxembourg

t: +31 (0)30-2418700  
f: +31 (0)30-2383749  
nlinfo@phenomenex.com

#### Mexico

t: 001-800-844-5226  
f: 001-310-328-7768  
tecnicomx@phenomenex.com



#### The Netherlands

t: 030-2418700  
f: 030-2383749  
nlinfo@phenomenex.com

#### New Zealand

t: 09-4780951  
f: 09-4780952  
nzinfo@phenomenex.com

#### Norway

t: 810 02 005  
f: +45 4810 6265  
nordicinfo@phenomenex.com

#### Puerto Rico

t: (800) 541-HPLC  
f: (310) 328-7768  
info@phenomenex.com

#### Sweden

t: 08 611 6950  
f: +45 4810 6265  
nordicinfo@phenomenex.com

#### United Kingdom

t: 01625-501367  
f: 01625-501796  
ukinfo@phenomenex.com

#### All other countries: Corporate Office USA

t: (310) 212-0555  
f: (310) 328-7768  
info@phenomenex.com



[www.phenomenex.com](http://www.phenomenex.com)

Phenomenex products are available worldwide.  
For the distributor in your country, contact  
Phenomenex USA, International Department at  
international@phenomenex.com

BR92590212\_W

#### Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions, which may be viewed at [www.phenomenex.com/TermsAndConditions](http://www.phenomenex.com/TermsAndConditions)

#### Trademarks

Cool-Lock, Easy Seals, Engineered Self Cross-Linking (ESC), Enviro-Inert, Guardian, GuideRight, Inferno, MultiResidue, PhenoRed, WAX<sub>PLUS</sub>, and Zebtron are trademarks of Phenomenex. FocusLiner is a trademark of SGE. Rxi is a registered trademark of Restek Corp. Tipp-Ex is a registered trademark of Tipp-Ex GmbH & Co KG. Vespel is a registered trademark of E.I. du Pont de Nemours and Co. Wite-Out is a registered trademark of BIC Corp. USA Inc.

#### Disclaimer

Phenomenex is not affiliated with Restek Corp., Agilent Technologies, Inc., SGE, Tipp-Ex GmbH & Co KG, E.I. du Pont de Nemours and Co, or BIC Corp. USA Inc. Comparative separations may not be representative of all applications.

Cool-Lock Nut is patented by Phenomenex. U.S. Patent No. 8,062,516

The opinions stated herein are solely those of the speaker and not necessarily those of any company or organization.