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

RESTEK

Sky™ Inlet Liners

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 without risking the loss of sensitive analytes.

When faced with complex choices, simple solutions stand out. Sky™ inlet liners from Restek use a comprehensive, state-of-the-art deactivation and are the only blue liners on the market—making them an easy-to-recognize solution to common inlet problems.

New Sky™ liners give you the inertness you need for more accurate trace level results.

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.

Selecting the right liner for your application can be a daunting task. Sky™ inlet liners make the choice simple; the comprehensive deactivation, distinctive color, and availability in popular configurations mean Sky™ liners are the best choice for optimizing chromatographic performance. Regardless of your application, Sky™ liners provide reliable inertness and assured performance, day-after-day and analysis-after-analysis.

The Story Behind Sky™

For over 25 years, Restek's vision has been to be the company chromatographers trust. This philosophy is the cornerstone of our business, and it's the reason our chemists and engineers are dedicated to developing innovative, best-in-class products like Sky™ liners. As chromatographers, we understand your needs and strive to develop and deliver products that make your life easier.

With Sky™ liners our goal was to create a state-of-the-art deactivation that provides superior performance, but why did we make them blue? Restek has always been associated with the color blue; to us, it signifies strength, innovation, and excellence. We made SKY™ liners blue because it represents the technological advancements and unmatched quality that define Restek products. Choose blue—the best choice for dependable results.

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Simple Solutions:
Inert Sky™ Inlet Liners Improve Accuracy and Precision for a Wide Range of Analytes

Many chromatographic problems, such as poor response and missing or tailing peaks are caused by activity in the inlet liner. These effects complicate quantification and can be particularly problematic for sensitive analytes. New Sky™ inlet liners from Restek offer exceptional inertness, assuring enhanced transfer of analytes to the column, good response, and highly symmetric peaks. The inertness of these liners is due to a state-of-the-art deactivation process that completely passivates the liner and wool so that they are inert to a wide variety of reactive analytes.

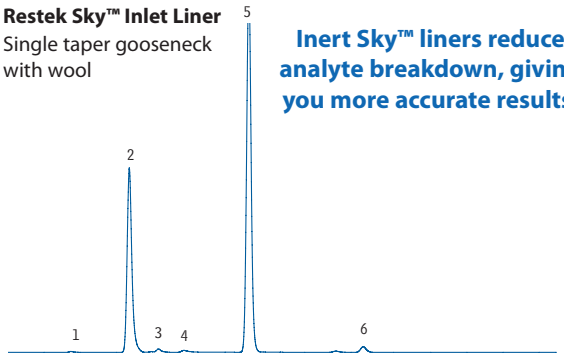
Some deactivations, such as base deactivation, are effective only for particular target compound chemistries. In contrast, the balanced deactivation of Sky™ liners prevents interactions with many chemical classes. As shown on the following pages, complex pesticide probes, as well as both acidic and basic compounds have strong responses and excellent peak shapes, demonstrating the inertness of Sky™ liners. With new Sky™ inlet liners you will see improved sensitivity, accuracy, and reproducibility liner-to-liner, which allows you to quantify challenging compounds at trace levels with confidence.

Reduced Breakdown Improves Trace Analyses

Endrin & DDT are important analytes for the environmental and food safety industries, and also serve as excellent general probes for liner inertness. Both compounds are sensitive to different modes of activity due to their chemical structures and because they are analyzed at very low concentrations (typically parts-per-billion concentrations for µECD analyses). As shown in Figure 1, Sky™ liners are significantly more inert than comparable liners from Agilent, showing 3-4 times less endrin and DDT breakdown.

Figure 1 Endrin and DDT breakdown is significantly reduced with Sky™ liners, demonstrating higher inertness.

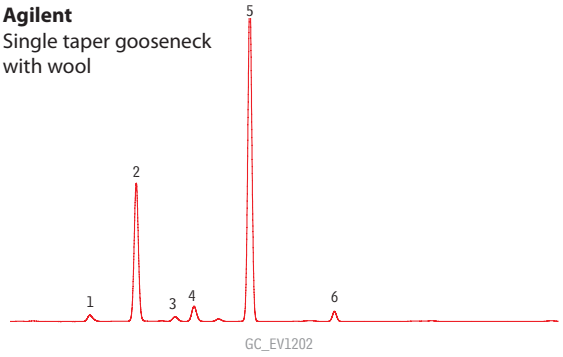
Restek Sky™ Inlet Liner
Single taper gooseneck with wool



Inert Sky™ liners reduce analyte breakdown, giving you more accurate results.

	% Breakdown	
	endrin	DDT
Restek	4.8	1.3
Agilent	16.5	4.2

Agilent
Single taper gooseneck with wool



Peaks
1. DDE*
2. Endrin
3. DDD*
4. Endrin aldehyde*
5. DDT
6. Endrin ketone*

*breakdown products

Column Rxi®-5Sil MS, 15 m, 0.25 mm ID, 0.25 µm (cat.# 13620); **Sample** endrin (50 ng/mL) and DDT (100 ng/mL) in hexane; **Injection** Inj. Vol.: 1 µL splitless (hold 0.75 min.); Liner: Comparison of Sky™ Single Taper Gooseneck Liner with Wool (cat.# 23303.5) and Agilent Single Taper Gooseneck Liner with Wool (cat.# 5062-3587); Inj. Temp.: 250 °C.

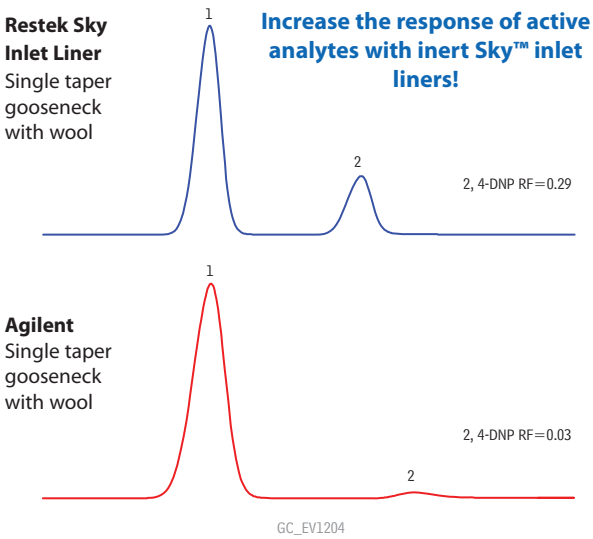
did you **know**?

Sky™ inlet liners from Restek are extensively tested to assure consistent product quality. The color and label have been shown not to interfere with analyses or contribute to background. Choose blue—the best liner for sensitive applications.

Greater Inertness Results in Higher Analyte Response

Another 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 2, 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.



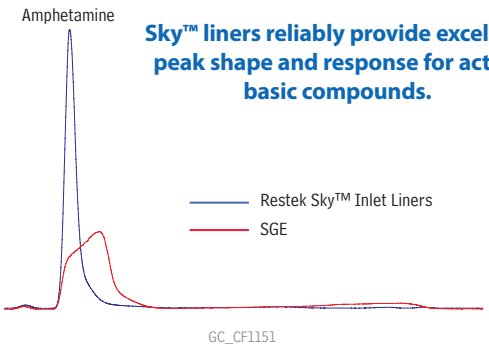
Peaks
1. Acenaphthene (IS)
2. 2,4-DNP

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.

Comprehensive Deactivation Assures Excellent Peak Shape

In addition to providing excellent results for reactive pesticides and acidic compounds, Sky™ inlet liners are also highly inert to active basic compounds, such as underivatized amphetamines. The exceptional inertness of Sky™ liners produces much better peak shape than is typically seen on other liners, resulting in simpler quantification and more accurate results (Figure 3).

Figure 3 Sky™ liners are completely passivated. Even when using wool, peak shape for highly active underivatized amphetamine is excellent.



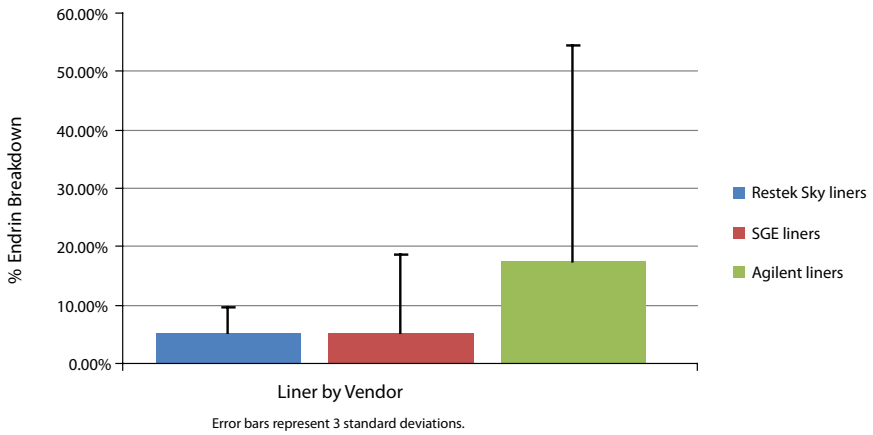
Column Rxi®-5Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 13623); **Sample** ~10 µg/mL amphetamine in 1-chlorobutane; **Injection** Inj. Vol.: 1 µL splitless (hold 1 min.); Liner: Comparison of Sky™ Single Taper Gooseneck with Wool (cat.# 23303.5) and SGE Single Taper Gooseneck with Wool (cat.# 092019); Inj. Temp.: 250 °C.

Liner-to-Liner Reproducibility: A Measure of Consistent Quality

It's not good enough to have one quality liner. You have to be confident that every liner will give the same level of performance. We test Sky™ liners extensively to ensure that each one is exceptionally inert and will provide optimal results. Using endrin breakdown as a measure of reproducibility, the data in Figure 4, based on multiple lots, illustrate that Sky™ liners are more consistently inert than competitor products.

New Sky™ liners provide exceptional inertness across a wide range of active analytes. The consistent, comprehensive deactivation process results in the accuracy and precision you need for reliable trace level analyses. Simplify liner selection with Sky™ liners from Restek—**choose blue, the best choice for dependable results.**

Figure 4 Sky™ inlet liners from Restek consistently show less endrin breakdown than comparable liners from other sources.



New Sky™ inlet liners are easily recognizable for your reordering convenience. All Sky™ liners come in specially marked boxes and are packaged in ultra-clean blister packs.

Sky™ Inlet Liners for Agilent GCs

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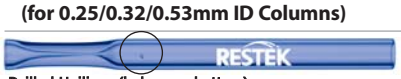
Splitless Liners for Agilent GCs	ID OD x Length	Similar to Agilent part #	ea.	cat.#/price 5-pk.	25-pk.
 2mm Splitless	2.0mm 6.5mm x 78.5mm	5181-8818 (ea.) 5183-4703 (5-pk.) 5183-4704 (25-pk.)	23313.1	23313.5	23313.25
 2mm Splitless w/Wool	2.0mm 6.5mm x 78.5mm		23314.1	23314.5	23314.25
 2mm Single Taper 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	Similar to Agilent part #	ea.	cat.# 5-pk.
 Low Pressure Drop Liner w/Wool	4.0mm 6.3mm x 78.5mm		23309.1	23309.5

DI 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 for PerkinElmer GCs

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

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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.
 3.5mm Split	3.5mm 5.0mm x 95mm	221-41444-01	23318.1	23318.5	23318.25
 3.5mm Split w/Wool	3.5mm 5.0mm x 95mm		23319.1	23319.5	23319.25
 3.5mm Precision Liner w/Wool	3.5mm 5.0mm x 95mm		23320.1	23320.5	
Splitless Liners for Shimadzu 17A, 2010, and 2014 GCs	**ID OD x Length**	**Similar to Shimadzu part #**	**ea.**	**cat.# 5-pk.**	
 3.5mm Single Taper Gooseneck	3.5mm 5.0mm x 95mm	221-48335-01	23321.1	23321.5	
 3.5mm Single Taper Gooseneck w/Wool	3.5mm 5.0mm x 95mm		23322.1	23322.5	

Sky™ Inlet Liners for Thermo Scientific GCs

Split Liners for Thermo TRACE, 8000, 8000 TOP, & Focus SSL	ID OD x Length	Similar to TS part #	ea.	cat.# 5-pk.	25-pk.
 5mm Straight	5.0mm 8.0mm x 105mm	453 20030	23323.1	23323.5	23323.25
 5mm Straight w/Wool	5.0mm 8.0mm x 105mm		23324.1	23324.5	23324.25
 5mm Precision Liner w/Wool	5.0mm 8.0mm x 105mm		23327.1	23327.5	
Splitless Liners for Thermo TRACE, 8000, 8000 TOP, & Focus SSL	**ID OD x Length**	**Similar to TS part #**	**ea.**	**cat.# 5-pk.**	**25-pk.**
 5mm Splitless	5.0mm 8.0mm x 105mm	453 20033	23325.1	23325.5	23325.25
 5mm Splitless w/Wool	5.0mm 8.0mm x 105mm		23326.1	23326.5	23326.25

Sky™ Inlet Liners for Varian GCs

Liners for Varian 1177 S/SL Injection Ports	ID OD x Length	Similar to Varian part #	ea.	cat.# 5-pk.	
 4mm Split Liner w/Glass Frit	4.0mm 6.3mm x 78.5mm		23330.1	23330.5	
 4mm Precision Liner w/Wool	4.0mm 6.3mm x 78.5mm		23328.1	23328.5	
 4mm Single Taper Gooseneck	4.0mm 6.5mm x 78.5mm	392611927	23331.1	23331.5	
 4mm Single Taper Gooseneck w/Wool	4.0mm 6.5mm x 78.5mm	392611936	23332.1	23332.5	
Liners for Varian 1078/1079 Injection Ports	**ID OD x Length**	**Similar to Varian part #**	**ea.**	**cat.# 5-pk.**	**25-pk.**
 3.4mm Split–No Frit	3.4mm 5.0mm x 54mm	392611945	23329.1	23329.5	23329.25

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Lit. Cat.# GNFL1323