

# SGE Inlet liners



Confidence in your analysis

Spot the difference in the SGE lineup

Choosing the right inlet liner and injection parameter can increase peak areas and reduce detection limits by up to 300%.<sup>1</sup>

Customer research shows that a significant number of GC users don't understand the importance of inlet liner selection, or how it contributes to their analysis. The SGE inlet liner range aims to make it simple for all gas chromatographers to select the right liner.

To optimize your results for different sample types, inlet liners are color coded by geometry for ease of selection.



**Confidence in your analysis**

## Easy to choose

Color	Injection Technique	Sample Types	Liner Geometry
Dark Green	Splitless	<ul style="list-style-type: none"> <li>Trace level analyses.</li> <li>Active compounds.</li> </ul>	Taper / Gooseneck 
Blue	Split	<ul style="list-style-type: none"> <li>General purpose.</li> <li>Concentrated samples.</li> <li>Dirty samples.</li> </ul>	FocusLiner® 
Aqua	Splitless	<ul style="list-style-type: none"> <li>Trace level analyses.</li> <li>Dirty samples.</li> <li>Wide boiling point range.</li> </ul>	Tapered FocusLiner® 
Orange	Direct	<ul style="list-style-type: none"> <li>Trace level analyses.</li> <li>Active compounds.</li> </ul>	ConnectTite 
Purple	Split Splitless	<ul style="list-style-type: none"> <li>General purpose.</li> <li>Concentrated samples.</li> <li>Dirty samples (only if quartz wool is present)</li> <li>Gaseous samples (also Purge and Trap, Headspace).</li> </ul>	Straight 
Yellow	Splitless LVI	<ul style="list-style-type: none"> <li>Trace level analyses.</li> <li>Low boiling point compounds.</li> <li>Active compounds.</li> </ul>	Double Taper 
Gray	PTV LVI	<ul style="list-style-type: none"> <li>Trace level analyses.</li> <li>Large volume injections.</li> </ul>	PTV/LVI 

1. Kende, A et al. Chromatographia, 2006; 63 (3/4): 181-7

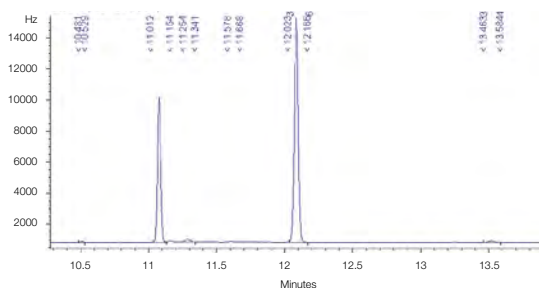
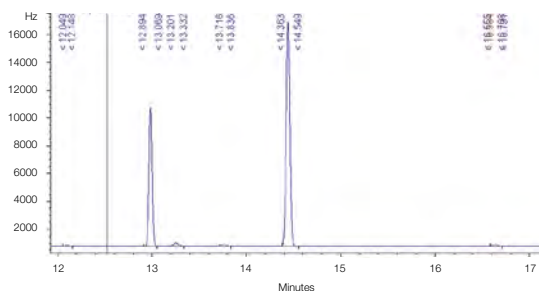
## Confidence in quality assurance

- SGE inlet liners have the lowest level of Endrin degradation and DDT degradation when compared to competitor results.
- Every batch is tested for activity using the EPA 8081B method. A 5 ppm standard is used to validate that every batch has less than 3% Endrin degradation and less than 1% DDT degradation.
- Each pack includes a batch certificate with quality assurance test results.



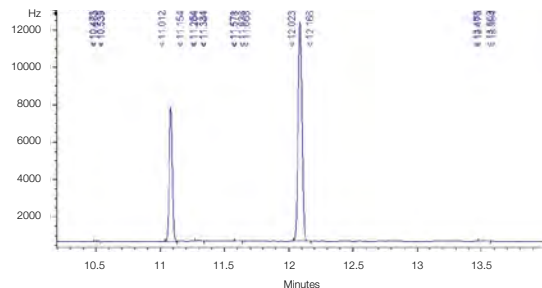
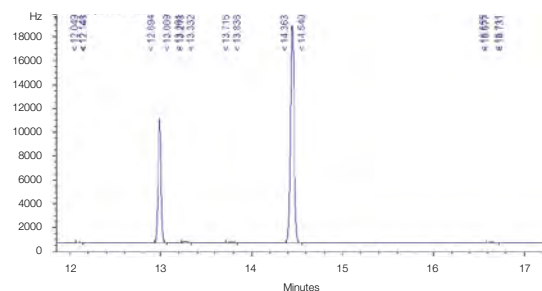
## Liner comparison Endrin and DDT % breakdown

### Competitor liner



Endrin Deg%      3.23  
DDT Deg%        1.95

### SGE FocusLiner®



Endrin Deg%      1.33  
DDT Deg%        0.83

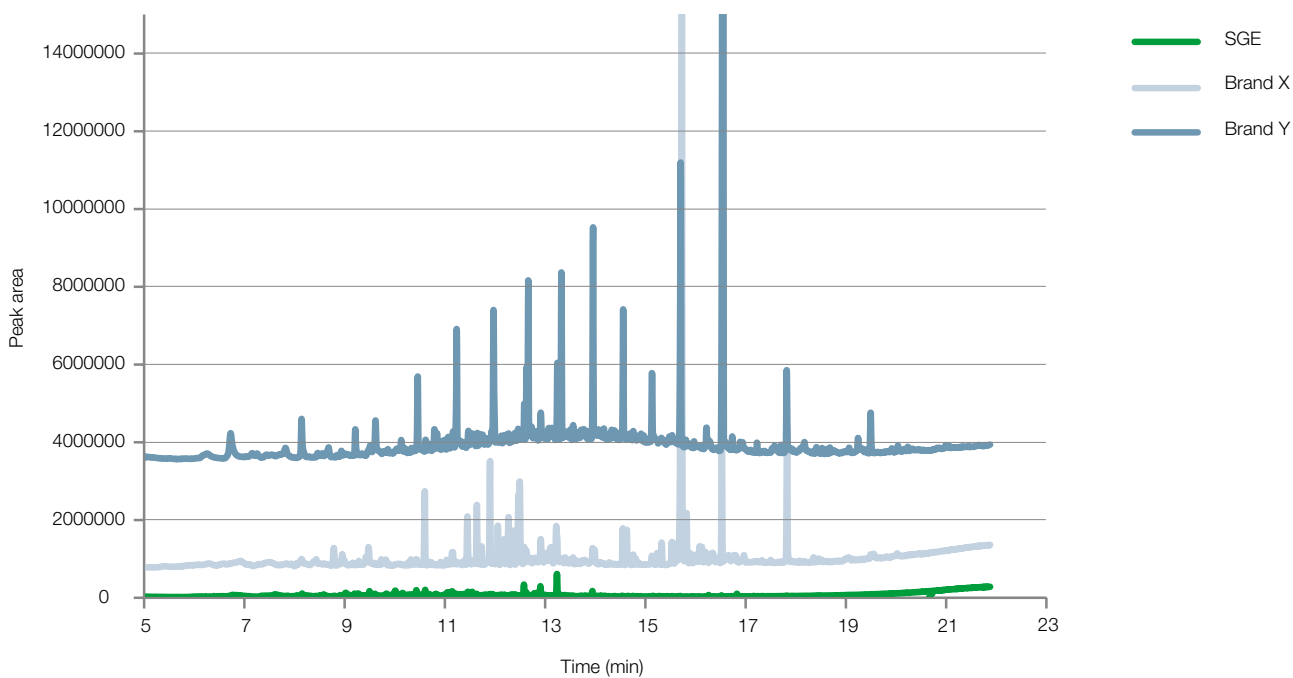
If the Endrin or DDT breakdown is 3% or higher it is a fail.

Spot the difference in the SGE lineup

## Confidence in your trace analysis

SGE inlet liners have the lowest siloxane bleed due to unique thin film deactivation - making them the liner of choice for sensitive MS analysis.

### MS scan for Siloxane bleed – thick vs thin film deactivation



Column part number	054101		
Phase	BPX5	Purge on (split) vent flow	20 mL/min
Column	30 m x 0.25 mm x 0.25 µm	Carrier gas	He
Initial temperature	50°C	Carrier gas flow	1.2 mL/min
Rate	20°C/min	Injection mode	No injection – gas flow for 5 mins
Final temperature	350°C, 2.2 min	Injection temperature	350°C
Detector	MS		

## Confidence in your analysis

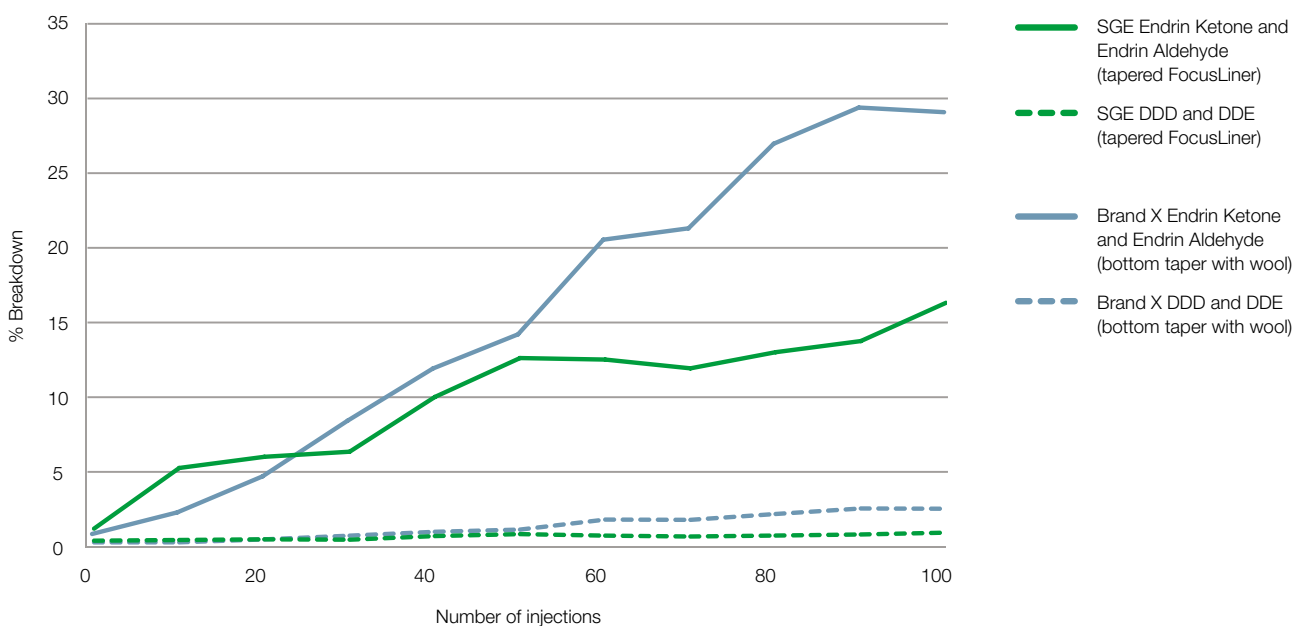
Whether for routine analysis, difficult probes, or trace analysis, have confidence in your analysis with SGE inlet liners. While bottom taper with wool is considered the best geometry for trace analysis, the SGE FocusLiner® delivers optimal performance in all applications.

A unique proprietary “thin film” process guarantees every surface of every SGE inlet liner, including the wool is fully deactivated. Tests show this deactivation provides an excellent analysis whether you are testing trace pesticides, difficult probes such as 2,4-dinitrophenol, or amphetamines.

### Confidence for routine analysis - injection after injection

- SGE tapered FocusLiner shows improved performance compared with a competitor’s premium deactivated liner.
- Choose the tapered FocusLiner to ensure your analysis is uncompromised injection after injection.

#### 50 ppb 100 repeat injections comparison Endrin and DDT % breakdown



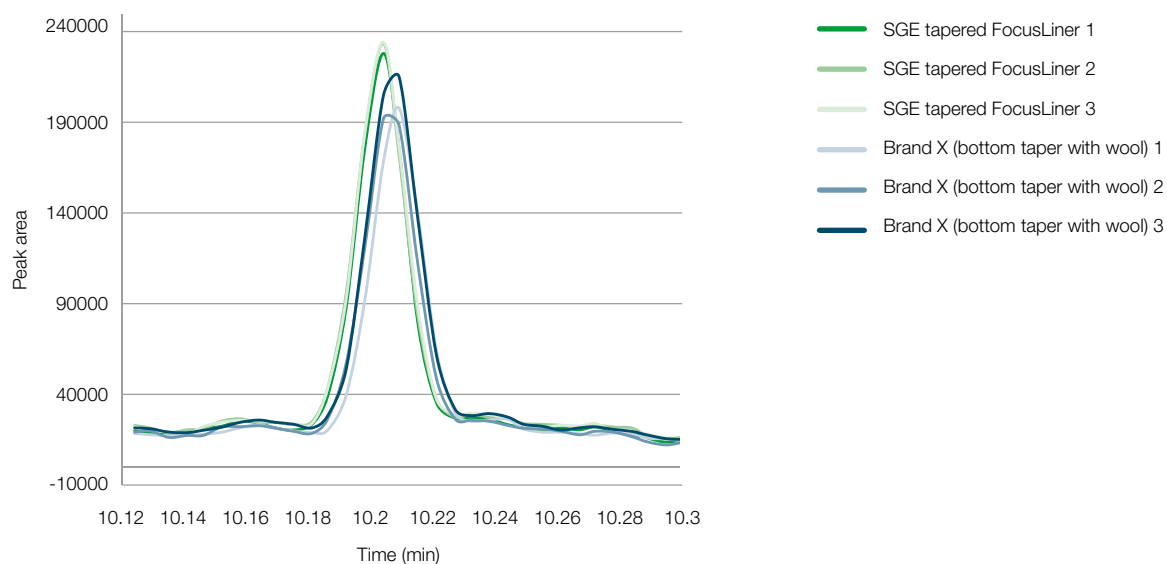
50 ppm Endrin and DDT test mix, 1  $\mu$ L splitless injection at 250°C, HT grade septa (PN: 041898)

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## Confidence with difficult probes such as 2,4-dinitrophenol

Reproducible performance with the right choice in liner geometry.

### Liner comparison 0.5 ng 2,4-dinitrophenol



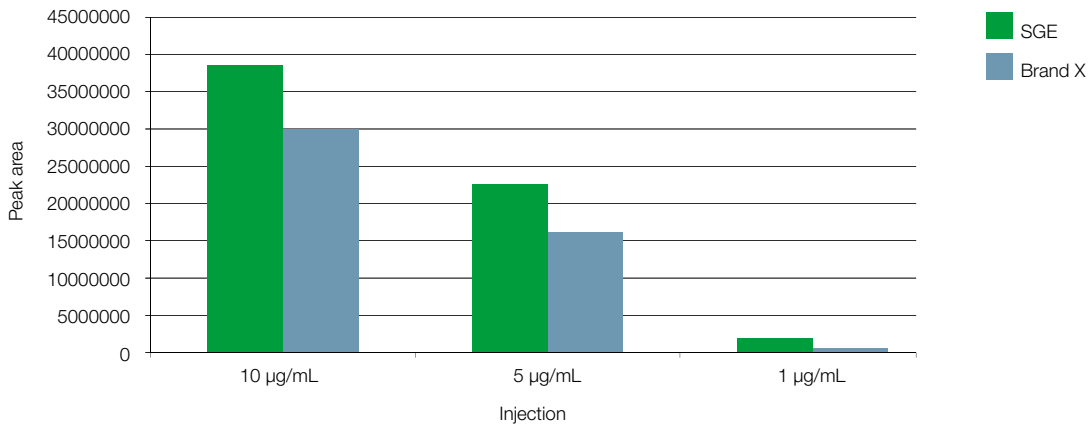
Column part number 054101			
Phase	BPX5	Rate 3	30°C/min
Column	30 m x 0.25 mm x 0.25 µm	Final temperature	350°C, 1 min
Sample	Custom SVOC standard mix from AccuStandard S-23011, 2000 µg/mL (diluted to 0.5 ppm)	Detector	MS
		Carrier gas	He, 4.9 psi
		Carrier gas flow	1.2 mL/min
Initial temperature	40°C	Injection volume	1 µL
Rate 1	10°C/min to 80°C	Injection temperature	200°C
Rate 2	20°C/min to 190°C, 2 min	Full scan / SIM	Full scan 50-550

## Easy to use

- Packs of 1, 5 and 25 liners.
- Complete with instrument appropriate o-rings or sealing rings.
- Each pack supplied with quality assurance test results.
- 5 and 25 blister packs are perforated enabling easy division, while maintaining liner integrity.



## Liner comparison 2,4-dinitrophenol



Column part number		054101	
Phase	BPX5	Detector	FID 300°C
Column	30 m x 0.25 mm x 0.25 µm	Carrier gas	He
Sample	2,4-dinitrophenol (in DCM) 10 µg/mL	Carrier gas flow	1.5 mL/min
Initial temperature	20°C/min	Injection volume	1 µL
Rate	10°C/min to 80°C	Injection temperature	250°C
Final temperature	150°C, 2.2 min		



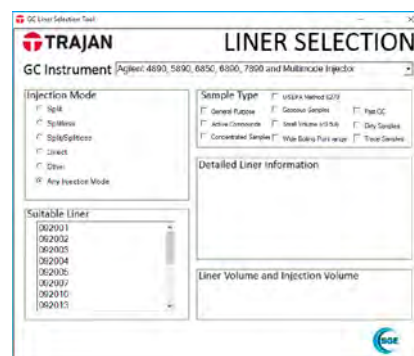
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## Liner selection tool

This tool helps to select the correct inlet liner for your analysis as well as featuring a vapor volume calculator to ensure accurate sample volume injection.

Visit us at [www.trajanscimed.com](http://www.trajanscimed.com) or contact your regional Trajan representative for assistance and further information.



## Trajan Scientific and Medical

Science that benefits people

Trajan is actively engaged in developing and delivering solutions that have a positive impact on human wellbeing. Our vision revolves around collaborative partnerships that improve workflows, delivering better results.