# SGE Inlet liners











Confidence in your analysis

Spot the difference in the SGE lineup

www.trajanscimed.com

**Choosing the right inlet liner and injection parameter can increase peak areas and reduce detection limits by up to 300%.[1]**

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 | • Trace level analyses.<br>• Active compounds. | Taper / Gooseneck |
| Blue | Split | • General purpose.<br>• Concentrated samples.<br>• Dirty samples. | FocusLiner® |
| Aqua | Splitless | • Trace level analyses.<br>• Dirty samples.<br>• Wide boiling point range. | Tapered FocusLiner® |
| Orange | Direct | • Trace level analyses.<br>• Active compounds. | ConnecTite |
| Purple | Split<br>Splitless | • General purpose.<br>• Concentrated samples.<br>• Dirty samples (only if quartz wool is present)<br>• Gaseous samples (also Purge and Trap, Headspace). | Straight |
| Yellow | Splitless<br>LVI | • Trace level analyses.<br>• Low boiling point compounds.<br>• Active compounds. | Double Taper |
| Gray | PTV<br>LVI | • Trace level analyses.<br>• Large volume injections. | PTV/LVI |

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

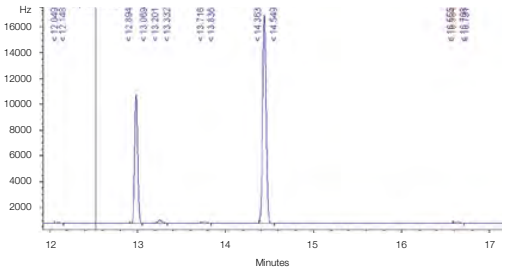
## Confidence in quality assurance

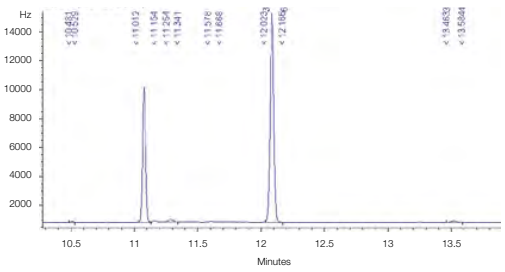
- SGE inlet liners have the lowest level of Endrin degradation and DDT degradation when compared to competitor results.
- Every batch is tested for activity using the EPA 8081B method. A 5 ppm standard is used to validate that every batch has less than 3% Endrin degradation and less than 1% DDT degradation.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




## Liner comparison Endrin and DDT % breakdown

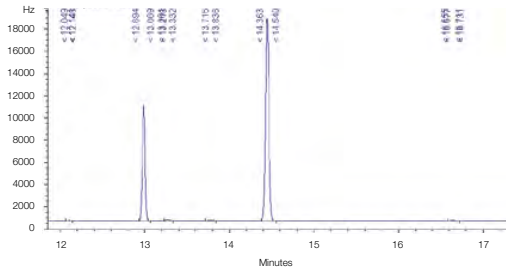
**Competitor liner**

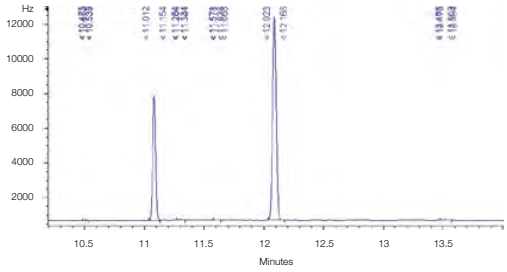



| | |
|---|---|
| Endrin Deg% | 3.23 |
| DDT Deg% | 1.95 |

**SGE FocusLiner®**




| | |
|---|---|
| Endrin Deg% | 1.33 |
| DDT Deg% | 0.83 |

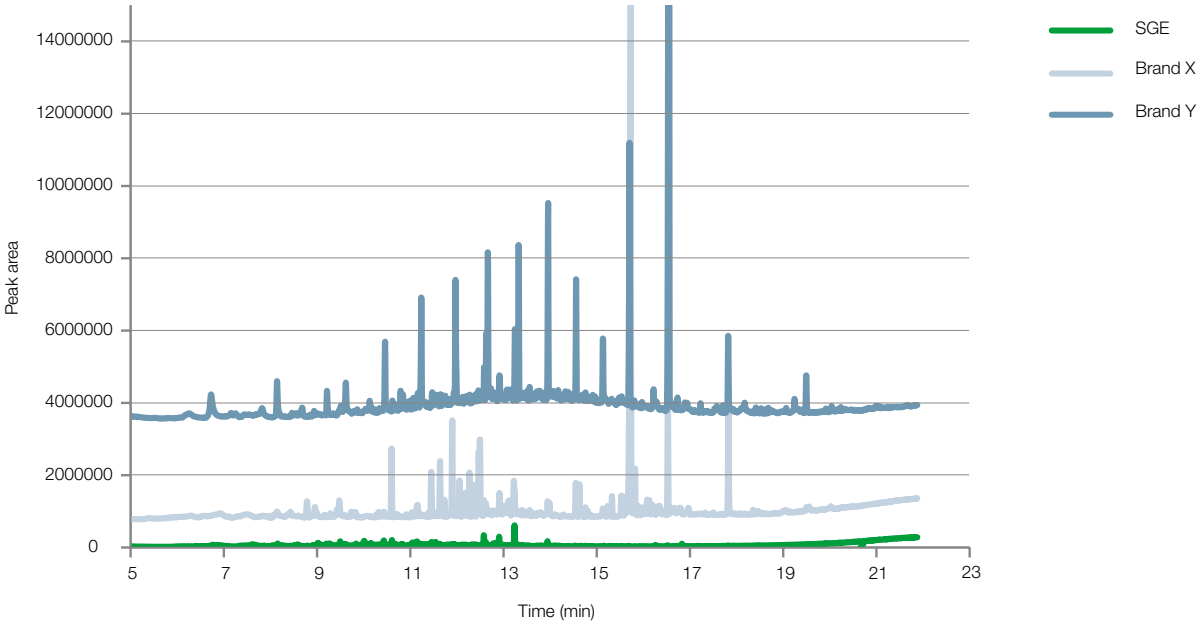
**If the Endrin or DDT breakdown is 3% or higher it is a fail.**

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

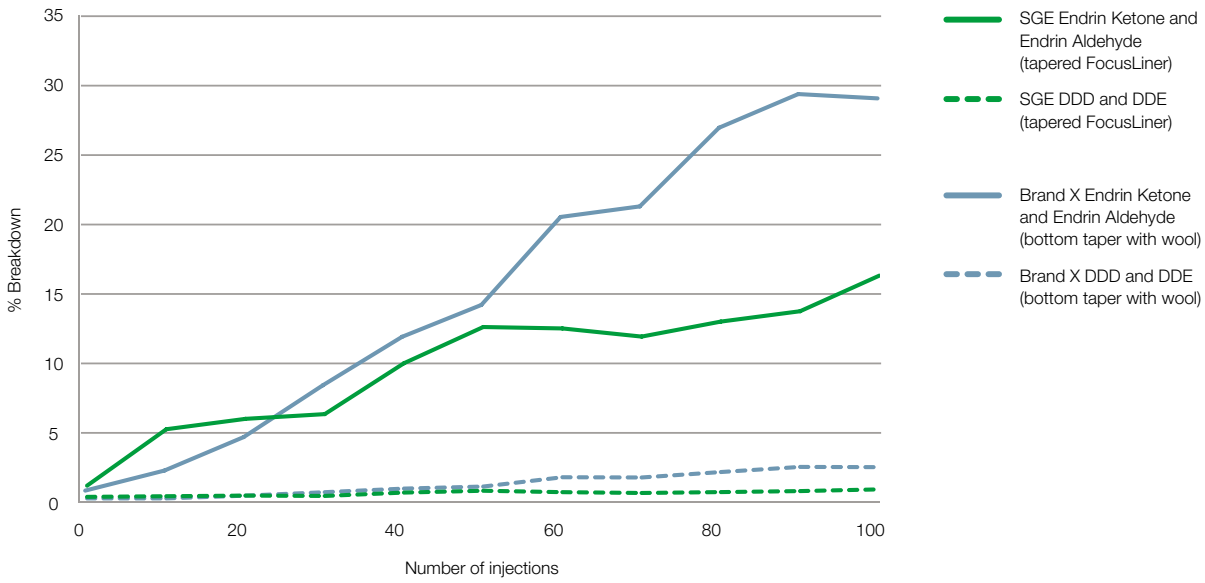
Whether for routine analysis, difficult probes, or trace analysis, have confidence in your analysis with SGE inlet liners. While bottom taper with wool is considered the best geometry for trace analysis, the SGE FocusLiner® delivers optimal performance in all applications.

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**

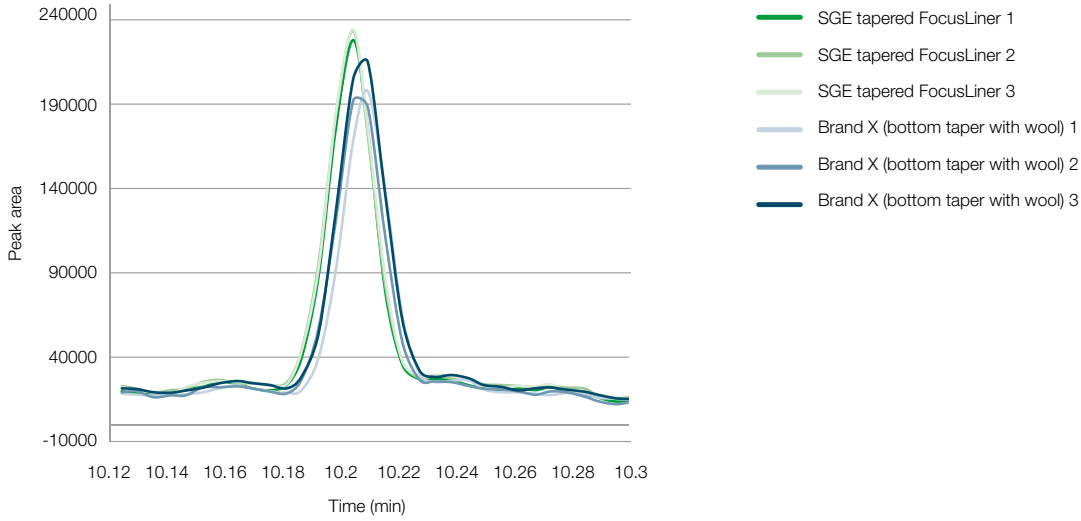



**50 ppm Endrin and DDT test mix, 1 µL splitless injection at 250°C, HT grade septa (PN: 041898)**

## 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**



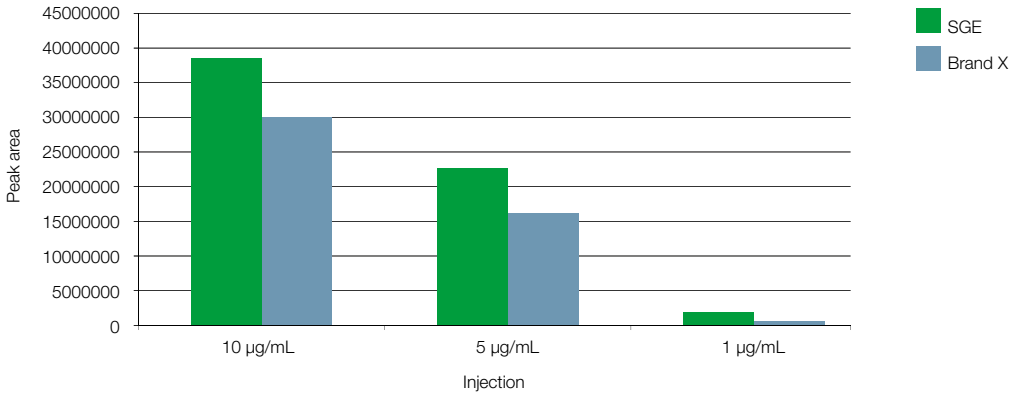

| Column part number | 054101 | | |
|---|---|---|---|
| Phase | BPX5 | Rate 3 | 30°C/min |
| Column | 30 m x 0.25 mm x 0.25 µm | Final temperature | 350°C, 1 min |
| Sample | Custom SVOC standard mix from AccuStandard S-23011, 2000 µg/mL (diluted to 0.5 ppm) | Detector | MS |
| | | Carrier gas | He, 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 | | |







SGE Inlet liners

## 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 or contact your regional Trajan representative for assistance and further information.

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## 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.