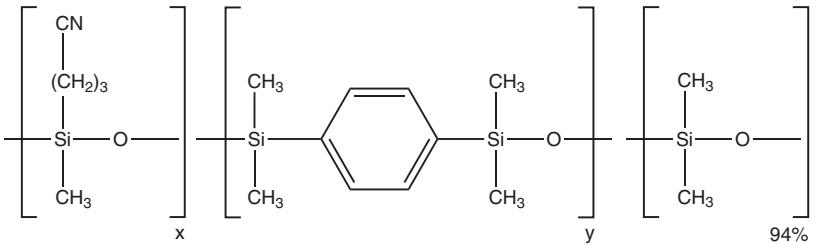
NEW! Rxi®-1301Sil MS GC Columns

The Selectivity You Need Without the Bleed

- Highest thermal stability in the industry ensures **dependable, accurate MS results and increased uptime**.
- Stabilized cyano phase selectivity **improves the performance of existing methods**. Ideal for solvents, glycols, and other polar compounds.
- Rigorous QC testing ensures inertness and **accurate, reliable data for multiple compound classes**.
- Maximum temperature: up to 320 °C

Cyano-based 1301 columns are general use GC columns that are well suited for the analysis of solvents across a range of volatilities. The cyano stationary phase provides more retention of polar compounds than a 5-type column; however, cyano-based stationary phases are prone to high bleed and poor robustness, limiting their utility. The new Rxi®-1301Sil MS column from Restek is a silarylene-based cyano stationary phase that not only offers the column selectivity needed for analyzing less volatile compounds, but also provides stable column chemistry which results in lower column bleed and improved robustness (Figure 1).

Figure 1: The new Rxi®-1301Sil MS column from Restek features a silarylene backbone, which results in a highly stable cyano phase with lower bleed and greater robustness than typical 1301-type columns.

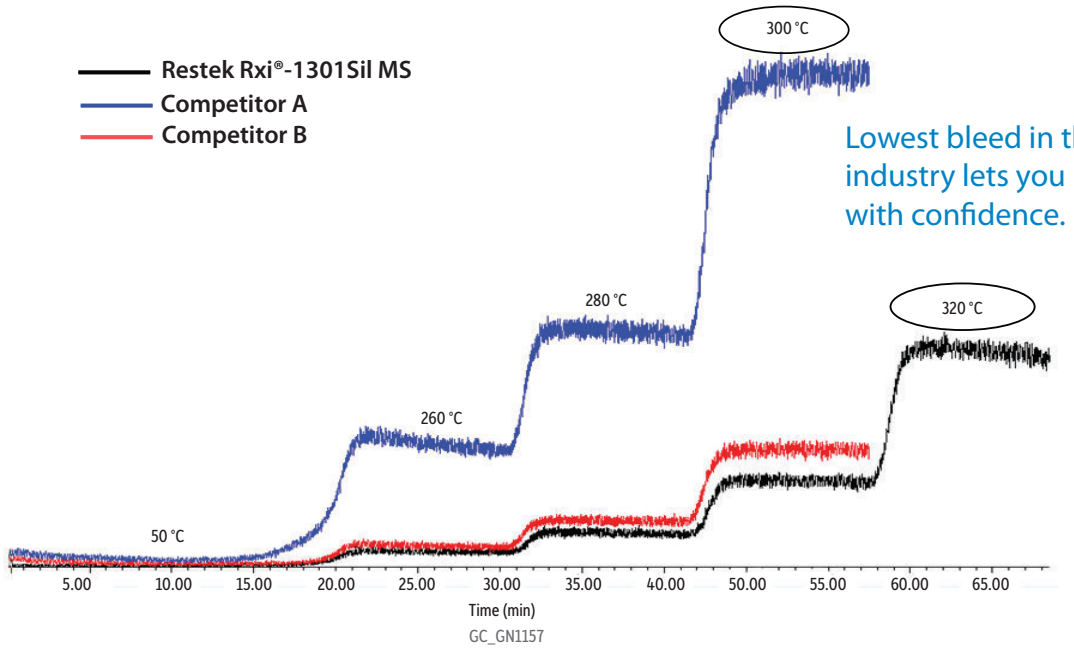


The low maximum operating temperature that is characteristic of non-silarylene cyano phases (<300 °C) is a well known drawback to using traditional 1301 columns for volatiles analysis. Due to their high bleed and low maximum temperatures, many 1301 columns do not perform well for MS analyses. In contrast, the robust Rxi®-1301Sil MS column works extremely well for MS applications because it offers the highest maximum temperature and lowest bleed in the industry (Figure 2), leading to much more reliable and accurate MS results. The exceptionally high thermal stability of the column produces robust performance and allows for more aggressive thermal ramping to eliminate carryover of high molecular weight compounds between analyses (i.e., increased uptime).

In addition to providing stable column chemistry with 1301 selectivity and the lowest bleed/highest temperature limits in the industry, the Rxi®-1301Sil MS column is designed to provide a high degree of inertness. Each Rxi®-1301Sil MS column is tested with a QC mix that includes both acidic and basic probes to ensure inertness across multiple compound classes (Figure 3). Greater column inertness improves peak shape and response, ensuring more accurate quantitative results.

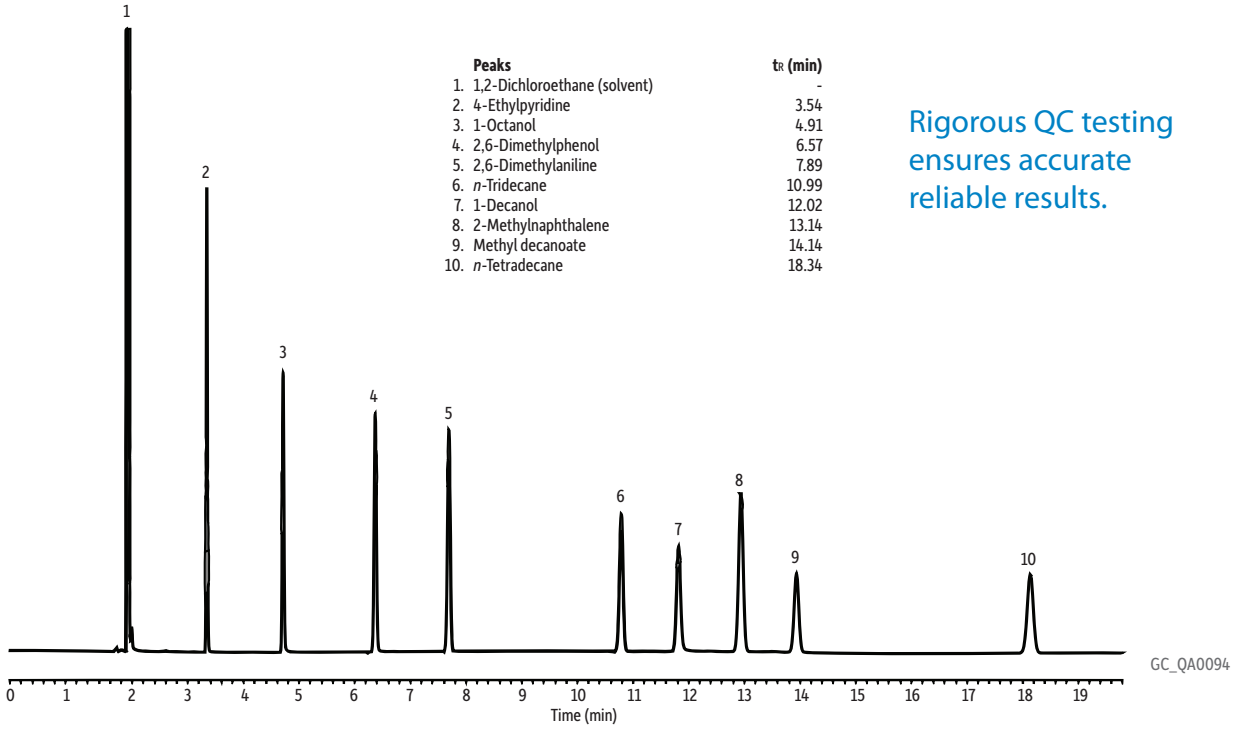
The new Rxi®-1301Sil MS column is ideal for the analysis of multiple compound classes across a range of polarities and volatilities. With its stable cyano-based selectivity and high thermal stability, it is the best 1301-type column for robust MS analyses.

Figure 2: Bleed for the Rxi®-1301Sil MS column is lower at 320 °C than the bleed generated by competitor columns, even when used at their lower operating temperatures.



Column Rxi®-1301Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 16094); **Injection** split (split ratio 100:1), Liner: Restek Premium 4 mm Precision® liner w/wool (cat.# 23305.1), Inj. Temp.: 270 °C; **Oven** Oven Temp.: 50 °C (hold 10 min) to 260 °C at 20 °C/min (hold 10 min) to 280 °C at 20 °C/min (hold 10 min) to 300 °C at 20 °C/min (hold 10 min) to 320 °C at 20 °C/min (hold 10 min); **Carrier Gas** He, constant flow, Flow Rate: 1.0 mL/min; **Detector** MS, Mode: Scan, Transfer Line Temp.: 300 °C, Analyzer Type: Quadrupole, Source Temp.: 270 °C, Quad Temp.: 150 °C, Ionization Mode: EI, Scan Range: 50 - 500 amu; **Instrument** Agilent 7890A GC & 5975C MSD; **Notes** Competitor columns were only programmed to 300 °C, as this is their maximum programmable temperature. The maximum programmable temperature of the Rxi®-1301Sil MS column is 320 °C. Competitor A and B Columns: 30 m x 0.25 mm x 0.25 µm

Figure 3: The Rxi®-1301Sil MS column shows a high degree of inertness for both acidic and basic compounds, ensuring good peak shape for a wide range of analytes.



	Peaks	t_R (min)
1.	1,2-Dichloroethane (solvent)	-
2.	4-Ethylpyridine	3.54
3.	1-Octanol	4.91
4.	2,6-Dimethylphenol	6.57
5.	2,6-Dimethylaniline	7.89
6.	*n*-Tridecane	10.99
7.	1-Decanol	12.02
8.	2-Methylnaphthalene	13.14
9.	Methyl decanoate	14.14
10.	*n*-Tetradecane	18.34

Column: Rxi®-1301Sil MS, 30 m, 0.25 mm ID, 0.25 µm (cat.# 16094); **Sample**: Rxi®-1301Sil MS quality control test mix, Diluent: 1,2-Dichloroethane, Conc.: 500 µg/mL: **Injection:** Inj. Vol.: 1 µL split (split ratio 100:1), Liner: 4 mm Restek Premium single taper w/wool (cat.# 23303.5), Inj. Temp.: 250 °C; **Oven:** Oven Temp.: 115 °C (hold 20 min); **Carrier Gas:** He, constant pressure (15.69 psi, 108.2 kPa); Linear Velocity: 27.28 cm/sec @ 115 °C, Dead Time: 1.882 min @ 115 °C; **Detector:** FID @ 320 °C, Make-up Gas Flow Rate: 30 mL/min, Make-up Gas Type: N_2, Hydrogen flow: 40 mL/min, Air flow: 400 mL/min, Data Rate: 10 Hz; **Instrument:** Agilent/HP6890 GC

NEW Rxi®-1301Sil MS Columns (fused silica) (midpolarity Crossbond® phase)

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- Stabilized cyano phase selectivity improves the performance of existing methods. Ideal for solvents, glycols, and other polar compounds.
- Rigorous QC testing ensures inertness and accurate, reliable data for multiple compound classes.
- Maximum temperature: up to 320 °C

ID	df	temp. limits	15-Meter cat.#	30-Meter cat.#	60-Meter cat.#
0.25 mm	0.25 µm	-60 to 320 °C		16094	16096
	1.00 µm	-60 to 320 °C		16095	16097
0.32 mm	0.25 µm	-60 to 320 °C		16098	
	1.00 µm	-60 to 320 °C		16099	16100
	1.50 µm	-60 to 320 °C		16104	16105
0.53 mm	1.00 µm	-60 to 320 °C	16101	16102	
	1.50 µm	-60 to 320 °C		16103	
	3.00 µm	-60 to 280/300 °C		16106	16107

True Blue Performance—Exceptionally Inert Restek Premium Inlet Liners

Restek Premium 4.0 mm ID Precision® Inlet Liner w/ Wool

For Agilent GCs equipped with split/splitless inlets

ID x OD x L	qty.	cat.#
Precision, Restek Premium Technology, Borosilicate Glass with Quartz Wool		
4.0 mm x 6.3 mm x 78.5 mm	ea.	23305.1
Precision, Restek Premium Technology, Borosilicate Glass with Quartz Wool		
4.0 mm x 6.3 mm x 78.5 mm	5-pk.	23305.5
Precision, Restek Premium Technology, Borosilicate Glass with Quartz Wool		
4.0 mm x 6.3 mm x 78.5 mm	25-pk.	23305.25

Restek Premium 2.0 mm ID Straight Inlet Liner

For Agilent GCs equipped with split/splitless inlets

ID x OD x L	qty.	cat.#
Straight, Restek Premium Technology, Borosilicate Glass		
2.0 mm x 6.5 mm x 78.5 mm	ea.	23313.1
Straight, Restek Premium Technology, Borosilicate Glass		
2.0 mm x 6.5 mm x 78.5 mm	5-pk.	23313.5
Straight, Restek Premium Technology, Borosilicate Glass		
2.0 mm x 6.5 mm x 78.5 mm	25-pk.	23313.25

Restek Premium 4.0 mm ID Single Taper Inlet Liner w/ Wool

For Agilent GCs equipped with split/splitless inlets

ID x OD x L	qty.	cat.#
Single Taper, Restek Premium Technology, Borosilicate Glass with Quartz Wool		
4.0 mm x 6.5 mm x 78.5 mm	ea.	23303.1
Single Taper, Restek Premium Technology, Borosilicate Glass with Quartz Wool		
4.0 mm x 6.5 mm x 78.5 mm	5-pk.	23303.5
Single Taper, Restek Premium Technology, Borosilicate Glass with Quartz Wool		
4.0 mm x 6.5 mm x 78.5 mm	25-pk.	23303.25

* 100% SATISFACTION GUARANTEE: If your Restek Premium inlet liner does not perform to your expectations for any reason, simply contact Restek® Technical Service or your local Restek® representative and provide a sample chromatogram showing the problem. If our GC experts are not able to quickly and completely resolve the issue to your satisfaction, you will be given an account credit or replacement product (same cat.#) along with instructions for returning any unopened product. (Do not return product prior to receiving authorization.) For additional details about Restek's return policy, visit www.restek.com/warranty

Instrument Supplies

Premium Non-Stick BTO® Septa

- Preconditioned and ready to use to 400 °C inlet temperature.*
- Bleed and temperature optimized; ideal for demanding GC and GC-MS applications.

Septum Diameter	50-pk.	100-pk.
5 mm CenterGuide	27082	27083
9 mm CenterGuide	27084	27085
9.5 mm (3/8")	27086	27087
10 mm	27088	27089
11 mm (7/16") CenterGuide	27090	27091
11.5 mm CenterGuide	27092	27093
12.7 mm (1/2") CenterGuide	27094	27095
17 mm CenterGuide	27096	27097
Shimadzu Plug	27098	27099

Dual Vespel® Ring Cross-Disk Inlet Seals for Agilent GCs

- Ideal for high-flow split applications >500 mL/min.
- Washerless, leak-tight seals.

0.8 mm ID Dual Vespel Ring Cross-Disk Inlet Seal	2-pk. cat.#	10-pk. cat.#
Gold-Plated	22083	22084
Siltek-Treated	22085	22086

Viton® O-Rings for Agilent GCs

Fit split (6.3 mm OD) or splitless (6.5 mm OD) liners.

Description	Max Temp	Similar to Agilent part #	10-pk. cat.#	50-pk. cat.#
Viton O-Rings for Agilent GCs	300 °C	5188-5365	22241	22242

Note: Due to differences in inlet design, the actual septum temperature for a given inlet setpoint can vary by manufacturer. Restek recommends using only BTO® septa in Thermo TRACE and Focus GCs.

*For 17 mm inlets, the maximum temperature is 330 °C. For all injectors, minimum recommended operating temperature for BTO® septa is 250 °C.

Instrument Supplies

Restek® Electronic Leak Detector

Don't let a small leak turn into a costly repair—protect your analytical column by using a Restek® leak detector.

- Audible tone indicates the severity of a leak.
- Redesigned circuitry offers 12 hours of operation between charges.
- Detects a broad range of gases; EX rated for use with hydrogen and other explosive gases.*

Backed by a one-year warranty, the Restek® leak detector is the industry standard for performance and affordability in handheld leak detectors.

Description	qty.	cat.#
Leak Detector With Hard-Sided Carrying Case and Universal Charger Set (U.S., UK, European, Australian)	ea.	22655
Small Probe Adaptor for Leak Detector	ea.	22658
Dynamic Duo Combo Pack (Restek Leak Detector and ProFLOW 6000 Flowmeter)	kit	22654
Soft-Sided Storage Case for Leak Detector or ProFLOW 6000 Flowmeter	ea.	22657
AC/DC Adaptor Car Charger	ea.	22652
Universal AC Power Adaptor	ea.	22653

*Caution: The Restek® electronic leak detector is designed to detect trace amounts of hydrogen in a noncombustible environment. It is NOT designed for determining leaks in a combustible environment. A combustible gas detector should be used for determining combustible gas leaks under any condition. When using it to detect hydrogen, the Restek® electronic leak detector may only be used for determining trace amounts in a GC environment.
Avoid using liquid leak detectors on a GC! Liquids can be drawn into the system and/or into the leak detector.

RESTEK
Pure Chromatography

Questions about this or any other Restek® product?
Contact us or your local Restek® representative (www.restek.com/contact-us).

www.restek.com

Lit. Cat.# GNTS2029-UNV