UNLEASH YOUR PERFORMANCE

ENHANCED DETECTION. LESS DOWNTIME. MORE DISCOVERY.

- Analyze a wide range of problematic compounds with confidence.
- Achieve lower detection limits with picogram-level sensitivity.
- Maximize profitability by extending method performance and column lifetime.

RMX GC COLUMNS

RESTEK

discover.restek.com/RMX

Next-Generation RMX GC Columns

Maximizing Data Quality and Method Performance

- Analyze a wide range of problematic compounds with confidence.
- Achieve lower detection limits with picogram-level sensitivity.
- Maximize profitability by extending method performance and column lifetime.

Common Challenges in GC Analysis

Today's laboratories are under constant pressure to do more with less. And when sensitivity, data quality, and lifetime needs aren't met, sample throughput slows down and productivity suffers.

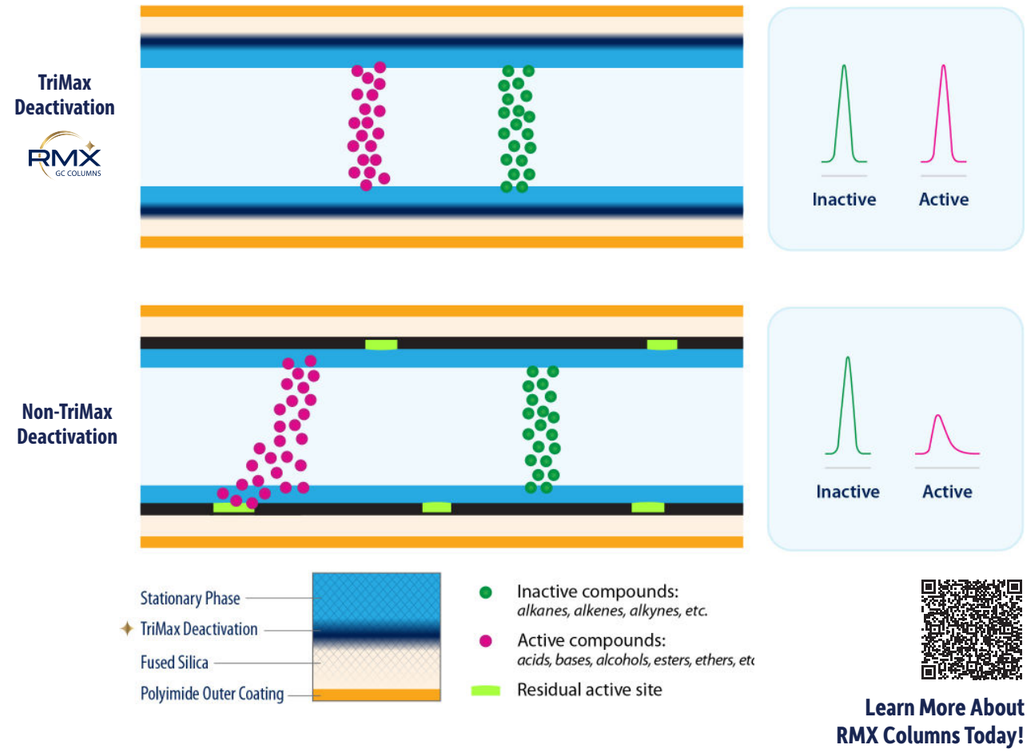
- Reduce Chlorinated Solvent Use
- Method Consolidation
- Lower Detection
- Extended Lifetime

Extend Your GC Performance Capabilities with RMX GC Columns

To stay competitive, labs must meet data quality requirements for as long as possible for a wide range of analyte classes. RMX columns with TriMax technology ***maximize performance*** for more compounds, so you can increase productivity and profitability.

What Makes RMX Columns Better?

Highly Effective TriMax Deactivation Protects Analytes From Surface Interactions, Improving Peak Shape and Sensitivity for a Wide Range of Compound Chemistries



Learn More About RMX Columns Today!

Innovation Starts Here: Built on a Foundation of Proven Expertise

RMX columns are the culmination of Restek's 40-year legacy in GC column technology.

1985 | Rtx Columns

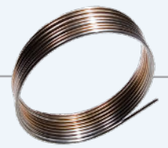
Our rugged, workhorse column line establishes Restek as a leader in advanced GC fused silica technology.

1993 | MXT Columns

MXT columns provide the strength of metal with the inertness of deactivated glass—they've even been used in space!

1994 | PLOT Columns

Our innovative bonding process minimizes particle release, ushering in the next generation of PLOT columns.



1994 | Packed Columns

Restek packed columns combine the strength of metal tubing with an inert deactivation and stable bonded-phase technology.

2006 | Rxi Columns

This high-performance column family provides outstanding inertness, low bleed, and high reproducibility.

2017 | Topaz Inlet Liners

The result of years of expertise in deactivation science led us to develop this innovative liner technology.

2026 | RMX Columns

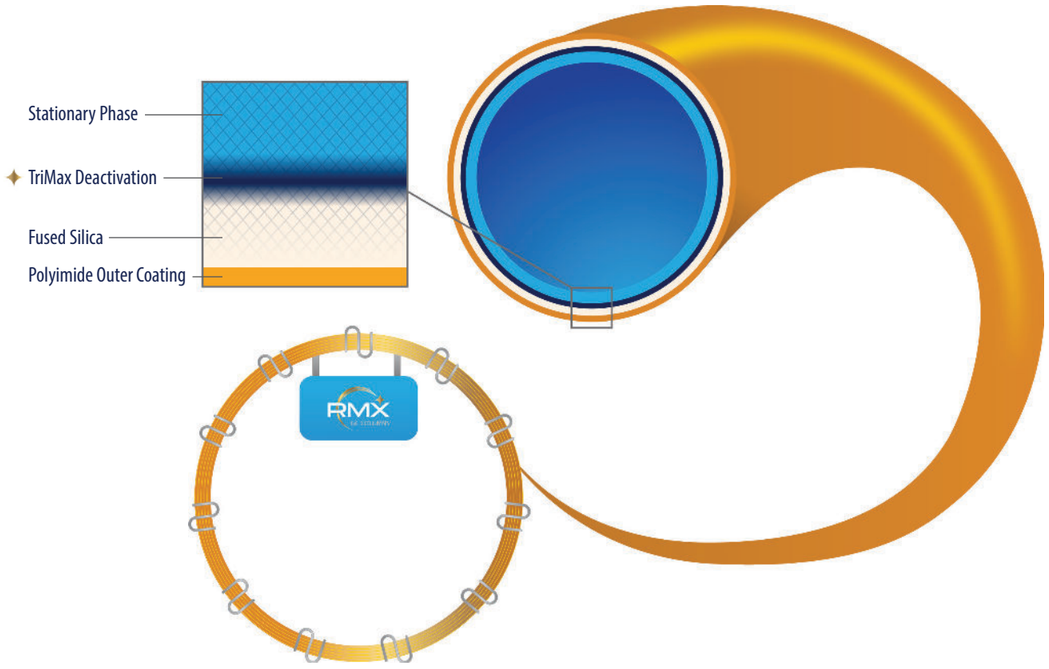
Next-generation RMX columns—built with groundbreaking TriMax deactivation—maximize sensitivity and data quality across a wide range of active (e.g., acids, bases, etc.) and inactive compounds.

TriMax Deactivation: Foundation of the RMX Advantage

RMX GC columns are made with TriMax technology, a groundbreaking deactivation that produces an exceptionally inert surface free of the residual active sites left behind by traditional deactivations. TriMax deactivation creates a rugged, contaminant-free surface that ensures outstanding peak shape and sensitivity, even for active compounds, such as acids, bases, alcohols, and more.

Superior TriMax Deactivation

- Uniform, cross-bonded layer on the column surface maximizes inertness.
- Synergy between stationary phase and deactivation gives rugged, consistent performance.



The Evolution & Impact of Advanced TriMax Deactivation

Legacy Deactivations

- Industrial chemicals not intended for GC.
- Limited coverage due to steric hindrance.
- Activity and variability from traditional organic reaction schemes.

Results: Surface imperfections that reduce overall inertness and reproducibility.

Non-TriMax Deactivations

- Adsorption sites from reaction byproducts.
- Phase breakdown catalyzed by residuals.
- Variation due to multistep fabrication.

Results: Column variability, analyte-specific sensitivity, poor peak shapes.

TriMax Deactivation

- Novel reagents intentionally designed for GC.
- Optimized process and reagents minimize residuals.
- Synergistic chemistries yield ordered, dense crosslinking.

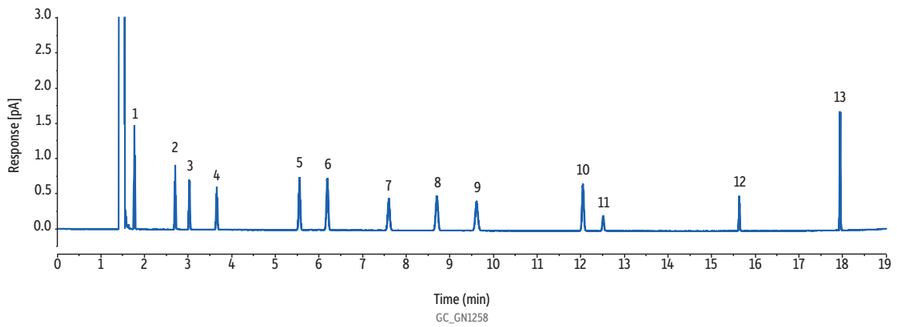
Results: Trace-level sensitivity, symmetrical peaks, enhanced column lifetime, and improved column reproducibility.

Maximize Reliability with Built-In Restek Quality

Consistent, high-quality performance is ensured by every aspect of RMX column production—from the moment the fused silica tubing is drawn to the designed-for-purpose TriMax deactivation to the extensive quality control (QC) testing—our processes assure dependable column-to-column performance.

Every RMX GC Column Undergoes Comprehensive Probe Testing to Ensure Performance

(1 ng on-column; RMX-5Sil MS 30 m, 0.25 mm, 0.25 µm)

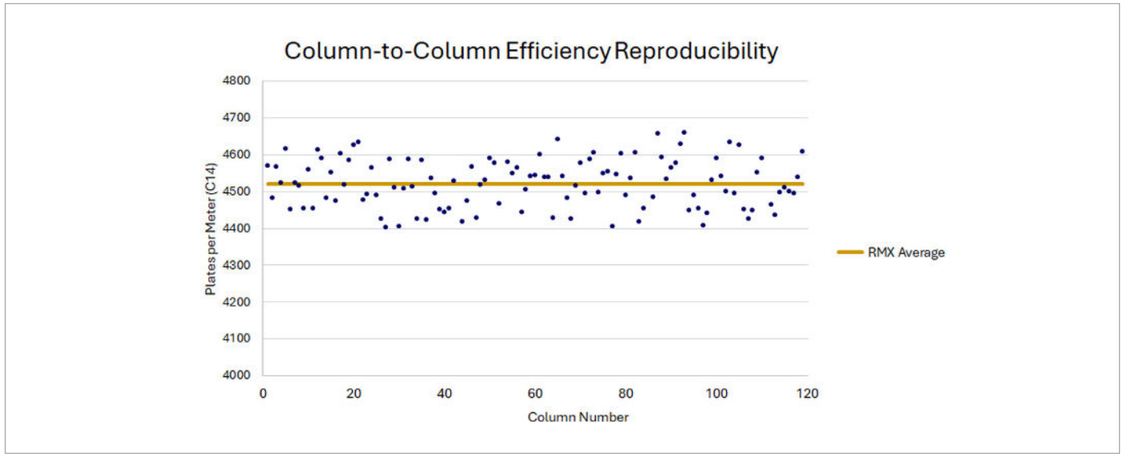


Peak	Analyte	tR %RSD (n=4)	Analyte Type
1	4-Picoline	1.05	Base
2	2-Ethylhexanoic acid	0.71	Aliphatic weak acid
3	1,6-Hexanediol	0.64	Polar diol
4	4-Chlorophenol	0.53	Halogenated aromatic weak acid
5	n-Tridecane	0.42	Neutral
6	1-Methylnaphthalene	0.38	Neutral polycyclic acid
7	1-Undecanol	0.36	Polar alcohol
8	n-Tetradecane	0.34	Neutral hydrocarbon
9	Dicyclohexylamine	0.33	Base
10	Acenaphthene-d10	0.20	Neutral polycyclic aromatic
11	2,4-Dinitrophenol	0.19	Aromatic weak acid
12	Pentachlorophenol	0.14	Halogenated aromatic weak acid
13	Benzidine	0.15	Weak dicyclic aromatic weak base

Maximum Performance That You Can Trust Across Every Column and Batch

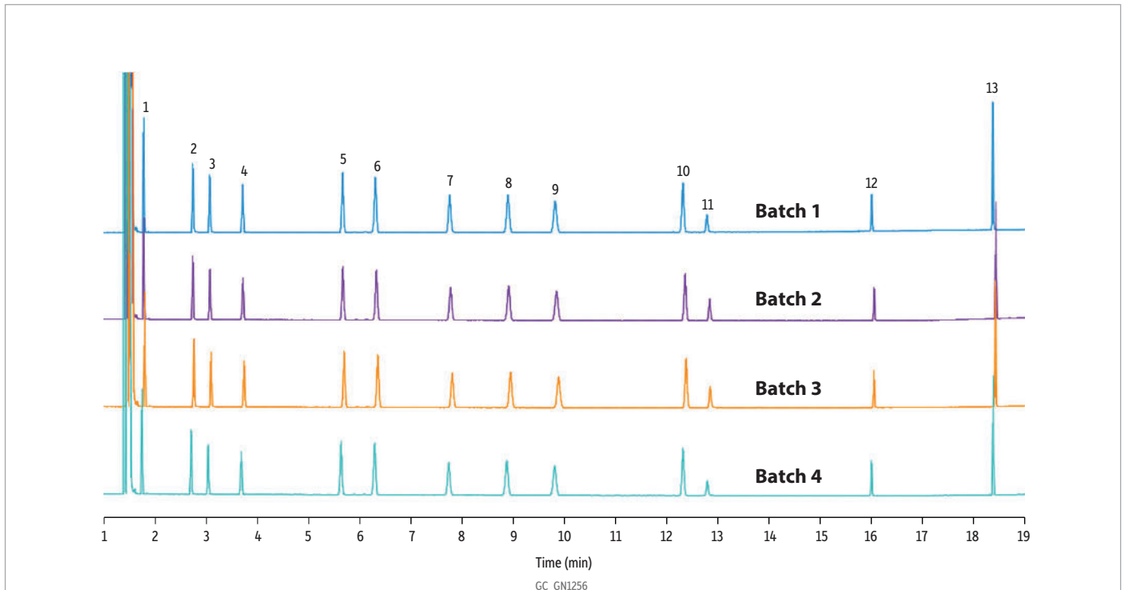
Get High Efficiency, Consistently

RMX columns have extremely high efficiency, ensuring sharp, symmetrical peaks. And column-to-column testing proves you get the same performance from every column you install.



Rock-Solid Retention Time Stability

With RMX GC columns, analytes elute when you expect them to, even at trace levels (1 ng on-column). No more resetting retention time windows when changing columns!



Built to Last: Rugged Performance That Maximizes Lifetime

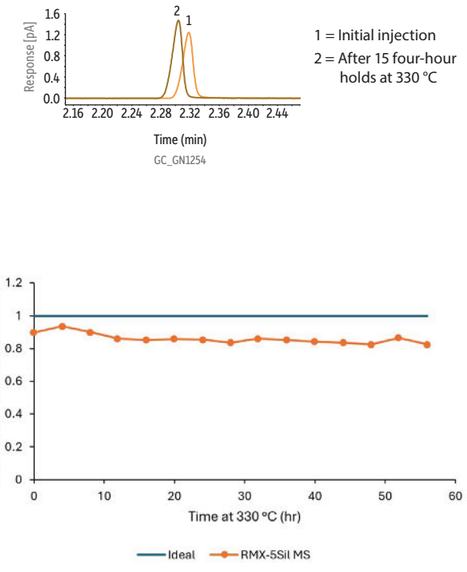
Extreme temperatures and aggressive oven programs drive faster run times, but they also degrade column performance over time. As shown here, RMX columns were tested and proven to deliver rugged performance even after exposure to extremely challenging thermal conditions.

Thermal Stability Challenge

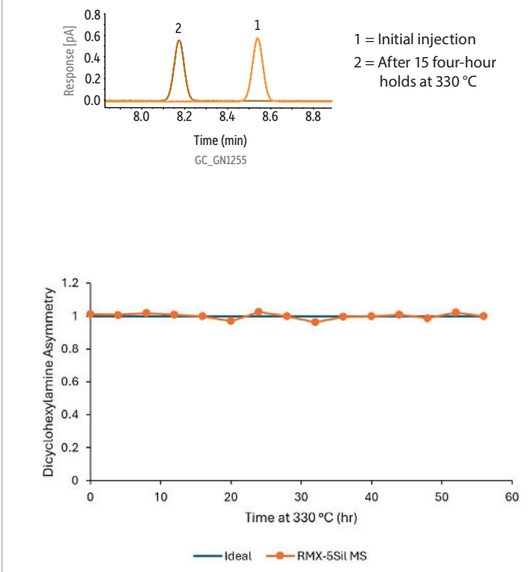
Peak shapes and column bleed were assessed before and after 15 aggressive thermal cycles (50 °C [hold 11 min ramp 20 °C/min to 330 °C [hold 4 hours]). Across compound classes, RMX columns produced sharp, symmetric peaks and stable responses for problematic acidic and basic analytes. Throughout the challenge, bleed levels stayed exceptionally low, demonstrating rugged, reliable performance.

RMX GC Columns Produce Stable Peaks for Both Acids and Bases

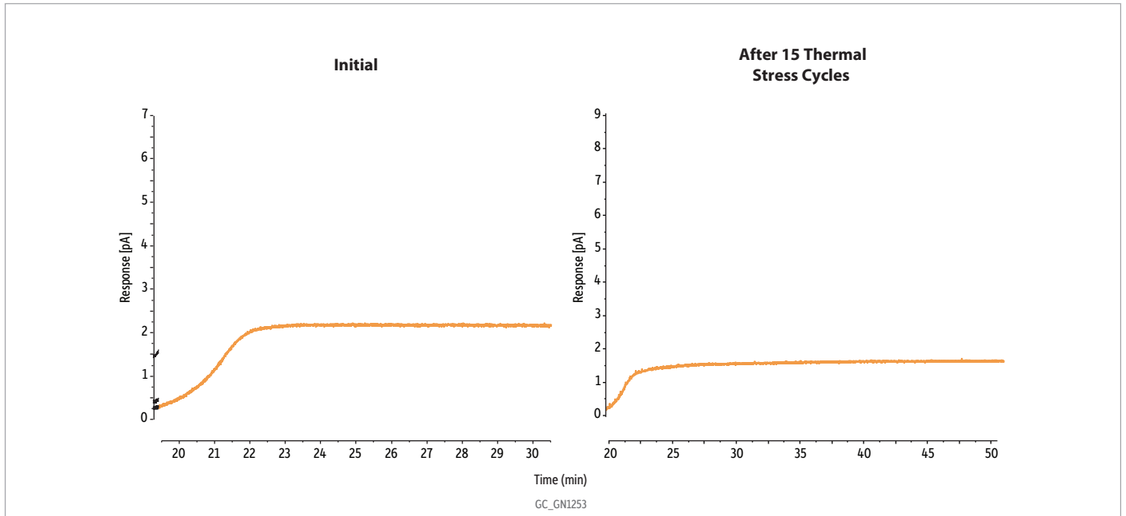
Acidic Probe

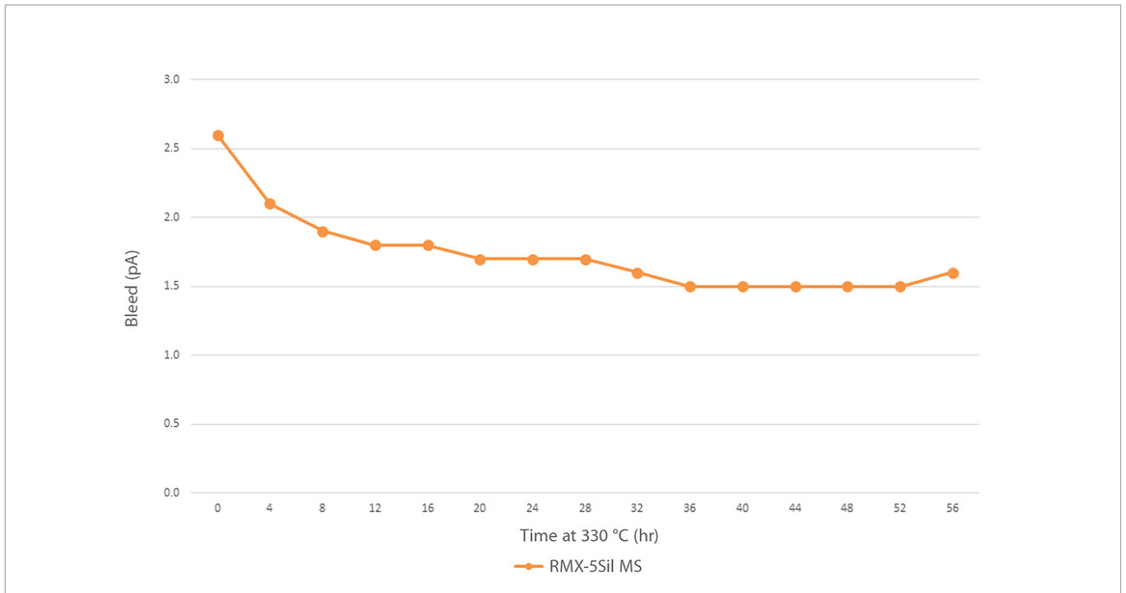


Basic Probe



RMX GC Columns Start Low Bleed and Stay Low Bleed





Better Data Quality Drives Extended Method Performance

To prove RMX-5Sil MS GC columns offer top performance, we tested them against premium and traditional competitor 5sil columns using 52 challenging semivolatiles that comprise a broad range of compound chemistries. RMX-5Sil MS columns met data quality requirements for asymmetry, linearity, and recovery for more semivolatiles across a wider range of compound classes—including difficult acids and bases—than the competitor columns across all test parameters.

How We Measured Performance

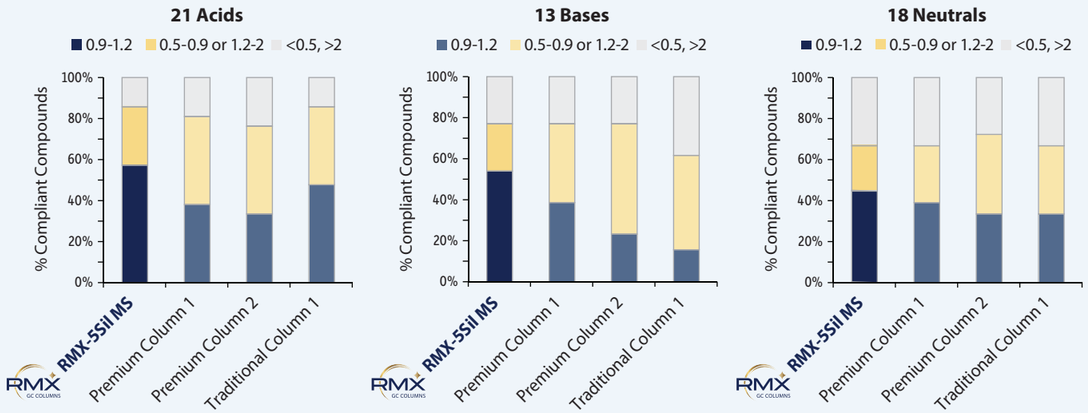
	Ideal	Acceptable	Poor
Asymmetry	0.9-1.2	0.5-0.9 or 1.2-2	<0.5, >2
Linearity (R2)	>0.995	0.990-0.995	<0.990
Linearity (%RSD)	<10%	11-20%	>20%
Recovery (LCP*)	70-130%	50-69% or 131-200%	<50%, >200%
Recovery (50 ppb)	70-130%	50-69% or 131-200%	<50%, >200%
Repeatability (%RSD at 50 ppb)	<10%	11-20%	>20%

*LCP = lowest calibration point varied by compound, ranging from 0.5 to 100 ppb (0.1-20 pg on column).

1

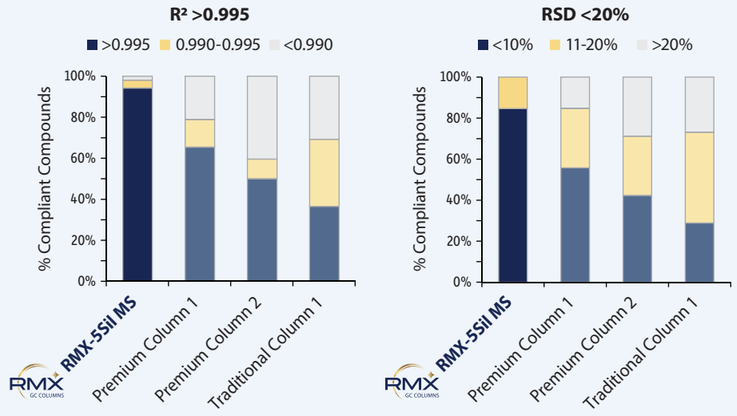
Highly Inert RMX Columns Produce More Symmetric Peaks for a Wider Range of Semivolatiles

(50 ppb; 30 m, 0.25 mm, 0.25 µm columns)



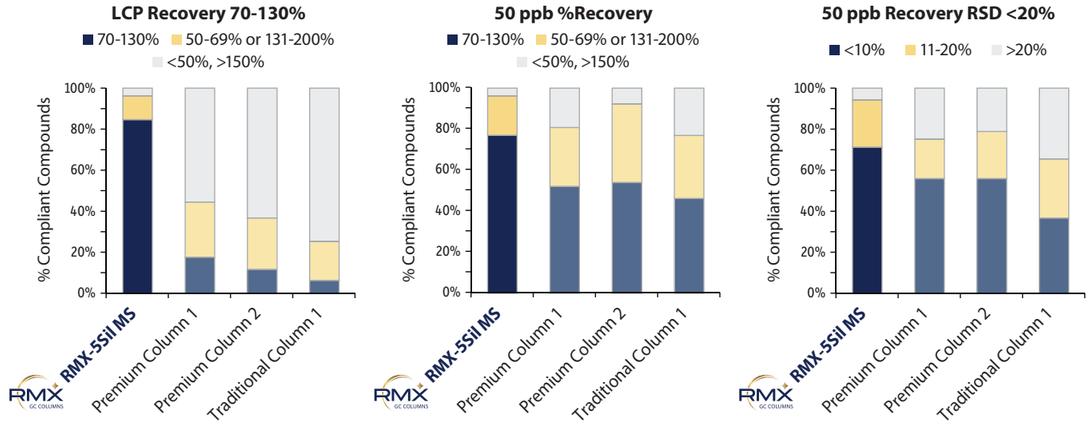
2

Superior Peak Shapes Improve Linearity and Confidence in Calibration for More Compounds



3

Exceptional Peak Shapes and Linear Calibrations Ensure Accurate, Precise Recovery



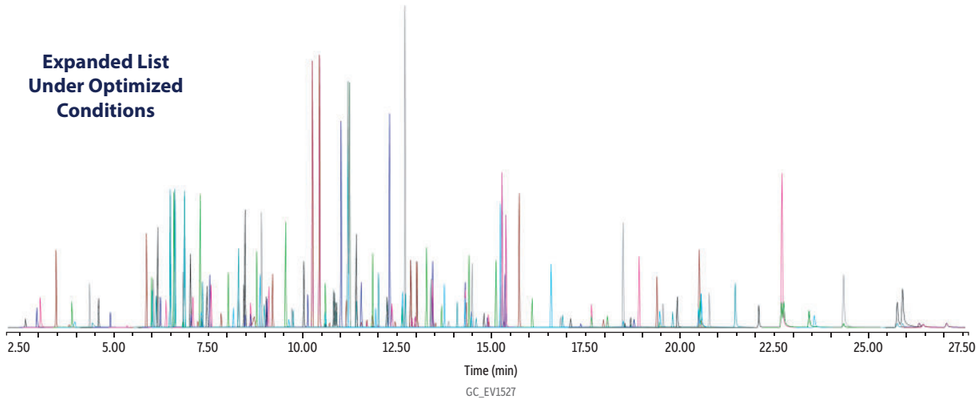
By maximizing data quality, RMX GC columns generate more compliant results—even for the most challenging semivolatiles—so accurate results are reported, and samples keep moving through the lab.

RMX Spotlight: Optimized Method for 150 Semivolatiles by GC-MS/MS

RMX columns can help your lab improve data quality and increase sensitivity for a wide range of compound chemistries. This optimized GC-MS/MS method for semivolatiles is one example of how high-performance RMX-5Sil MS columns allow labs to expand methods to include more analytes and even scale down extraction volumes to reduce solvent use. Our list of 150 semivolatiles includes more than 30 acids, over 30 bases, and many other active analytes and challenging compounds.

Boost Productivity by Extending Analyte Lists

Get more done in less time and with fewer resources—RMX 5Sil MS columns produce exceptional performance across a wide range of compound chemistries, so you can consolidate lists with confidence.

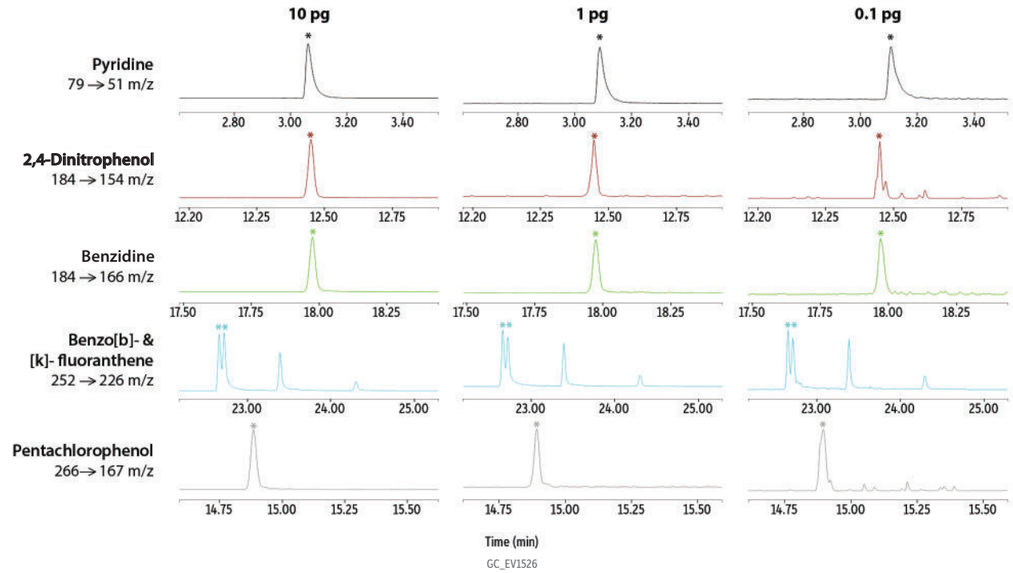


Peaks
1. 1,4-Dioxane
2. N-Nitrosodimethylamine
3. Pyridine
4. Ethyl methacrylate
5. 2-Picoline
6. N-Nitrosomethylethylamine
7. Methyl methanesulfonate
8. Acrylamine
9. 2-Fluorophenol
10. N-Nitrosodiethylamine
11. Ethyl methanesulfonate
12. Benzaldehyde
13. Phenol-d6
14. Phenol
15. Aniline
16. Pentachloroethane
17. bis-(2-Chloroethyl)ether
18. 2-Chlorophenol
19. Decane
20. 1,3-Dichlorobenzene
21. 1,4-Dichlorobenzene-d4
22. 1,4-Dichlorobenzene
23. Benzyl alcohol
24. 1,2-Dichlorobenzene
25. Indene
26. 2-Methylphenol
27. 2,2'-oxybis(1-chloropropane)
28. N-Nitrosopyrrolidine
29. Acetophenone
30. 3- and 4-Methylphenol
31. N-Nitrosomorpholine
32. o-Toluidine
33. Hexachloroethane
34. Nitrobenzene-d5
35. Nitrobenzene
36. N-Nitrosopiperidine
37. Isophorone
38. 2-Nitrophenol
39. Benzoic acid
40. 2,4-Dimethylphenol
41. O,O,O-Triethyl phosphorothioate
42. Bis(2-chloroethoxy)methane
43. 2,4-Dichlorophenol
44. Phentermine
45. 1,2,4-Trichlorobenzene
46. Naphthalene-d8
47. Naphthalene
48. α-Terpineol
49. 4-Chloroaniline
50. 2,6-Dichlorophenol
51. Hexachloropropene
52. Hexachlorobutadiene
53. Quinoline
54. Caprolactam
55. 1,4-Phenylenediamine
56. N-Nitrosodibutylamine
57. 4-Chloro-3-methylphenol
58. Isosafrole I
59. 2-Methylnaphthalene
60. 1-Methylnaphthalene
61. 1,2,4,5-Tetrachlorobenzene
62. Hexachloropentadiene
63. 2,3-Dichloroaniline
64. 2,4,6-Trichlorophenol
65. 2,4,5-Trichlorophenol
66. 2-Fluorobiphenyl
67. 2-Chloronaphthalene
68. Isosafrole II
69. Safrole
70. Biphenyl
71. 1-Chloronaphthalene
72. o-Nitroaniline
73. Diphenyl ether
74. 1,4-Naphthoquinone
75. 1,2-Dinitrobenzene
76. 1,3-Dinitrobenzene
77. Diphenyl phthalate
78. 1,6-Dinitrotoluene
79. 1,4-Dinitrobenzene
80. Acenaphthylene
81. 3-Nitroaniline
82. Acenaphthene-d10
83. Acenaphthene
84. 2,4-Dinitrophenol
85. 4-Nitrophenol
86. Pentachlorobenzene
87. Dibenzofuran
88. 2,4-Dinitrotoluene
89. 1-Naphthylamine
90. 2,3,5,6-Tetrachlorophenol
91. 2,3,4,6-Tetrachlorophenol
92. 2-Naphthylamine
93. Diethyl Phthalate
94. Hexadecane
95. Fluorene
96. Zinophos
97. 5-Nitro-o-toluidine
98. 4-Nitroaniline
99. 4-Chlorophenyl phenyl ether
100. 4,6-Dinitro-2-methylphenol
101. Diphenylamine
102. Azobenzene
103. 2,4,6-Tribromophenol
104. Sulfotepp
105. 1,3,5-Trinitrobenzene
106. Diallate 1
107. Phorate
108. Phenacetin
109. 4-Bromophenyl phenyl ether
110. Diallate 2
111. Hexachlorobenzene
112. Dimethoate
113. Atrazine
114. Pentachlorophenol
115. 4-Aminobiphenyl
116. Pentachloronitrobenzene
117. Propyzamide
118. Phenanthrene-d10
119. Octadecane
120. Phenanthrene
121. Dinoseb
122. Disulfoton
123. Anthracene
124. Carbazole
125. Methyl Parathion
126. di-n-Butyl phthalate
127. 4-Nitroquinoline-N-oxide
128. Ethyl Parathion
129. Methapyrilene
130. Isodrin
131. Fluoranthene
132. Fluoranthene
133. Benzidine
134. Pyrene
135. p-Terphenyl-d14
136. Aramite 1
137. Aramite 2
138. p-Dimethylaminoazobenzene
139. Chlorobenzilate
140. Famphur
141. 3,3'-Dimethylbenzidine
142. Kepone
143. Benzyl butyl phthalate
144. Bis(2-ethylhexyl) adipate
145. 2-Acetylaminofluorene
146. Benz[a]anthracene
147. Chrysene-d12
148. 3,3'-Dichlorobenzidine
149. 4,4'-Methylenebis(2-chloroaniline)
150. Chrysene
151. Bis(2-ethylhexyl) phthalate
152. 6-Methylchrysene
153. Di-n-octyl phthalate
154. Benzo[b]fluoranthene
155. 7,12-Dimethylbenz[a]anthracene
156. Benzo[k]fluoranthene
157. Benzo[a]pyrene
158. Perylene-d12
159. 3-Methylcholanthrene
160. Dibenz(a,h)acridine
161. Dibenz[a,j]acridine
162. Indeno[1,2,3-cd]pyrene
163. Dibenz[a,h]anthracene
164. Benzo[ghi]perylene

Get the Method Here!

Want to Save Time and Reduce Solvent Use with Scaled-Down Sample Extraction?

Using an RMX-5Sil MS column under our optimized conditions, you get outstanding peak response at picogram (and sub-picogram!) levels, so you get better sensitivity and the lower detection limits needed for low-volume sample preparation methods.



What Customers Are Saying

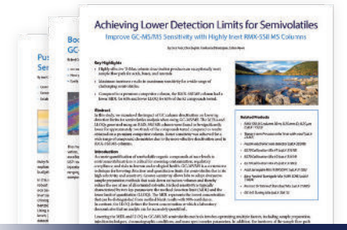
Carlos Parra is a QC MS Specialist II at NOW Foods, where he has spent the past five years specializing in contaminant analysis, including pesticide residue testing using GC-MS/MS, LC-MS/MS, Orbitrap MS, and TOF MS technologies. He brings over 21 years of experience as an analytical chemist across multiple industries - pharmaceuticals, packaging, cosmetics, medical devices, and food - where he has developed deep expertise in mass spectrometry, method development, and complex analytical workflows.

At NOW Foods, in our QC pesticide residue laboratory, we work with complex botanical matrices every day in a high-paced environment, so we expect our GC columns to deliver consistent results and maintain a reasonable lifetime. **The Restek inert RMX-5Sil MS GC column has made a noticeable difference in how confidently we approach our work. From the start, we observed cleaner baselines, stronger and more stable responses, higher signal-to-noise, and retention times that remained exactly where expected - run after run, even after column replacement.** What truly impressed us is how well the column performed under real QC environment. Even with challenging botanical samples and large multi-residue panels, the chromatography remained reliable and predictable. The fused guard and transfer-line design has also made a meaningful impact on our day-to-day workflow. Being able to trim without affecting retention times or sacrificing the analytical column has reduced interruptions, extended column life, and saved valuable time when schedules are tight.

Overall the RMX-5Sil MS GC column represents a significant improvement to our routine pesticide analysis, giving our team greater confidence in the data we generate and enhancing the efficiency of our laboratory.

Explore More RMX Applications

- Comprehensive Trace-Level GC-MS/MS Semivolatiles Method (EPA Method 8270E): Maintain Data Quality While Lowering Detection Limits with an RMX-5Sil MS Column
- Increase Lab Efficiency with an Expanded Trace-Level Semivolatiles Method: Exceptionally Inert RMX-5Sil MS Columns Let You Meet Data Quality Objectives for a Wider Range of Compounds
- Achieving Lower Detection Limits for Semivolatiles: Improve GC-MS/MS Sensitivity with Highly Inert RMX-5Sil MS Columns
- Trace-Level Semivolatiles Analysis: An Evaluation of the RMX-5Sil MS Column: Published in Collaboration with Shimadzu Corporation
- Pushing the Boundaries of Low-Level GC-MS Semivolatiles Analysis
- Maximize Confidence in Seized Drug Identification by GC-MS
- Boost Productivity with Simultaneous PAH and PCB GC-MS Analysis
- Optimizing Method Standard HJ 834-2017 for GC-MS Semivolatiles Analysis: Increase Speed and Certainty with Highly Inert RMX-5Sil MS Columns



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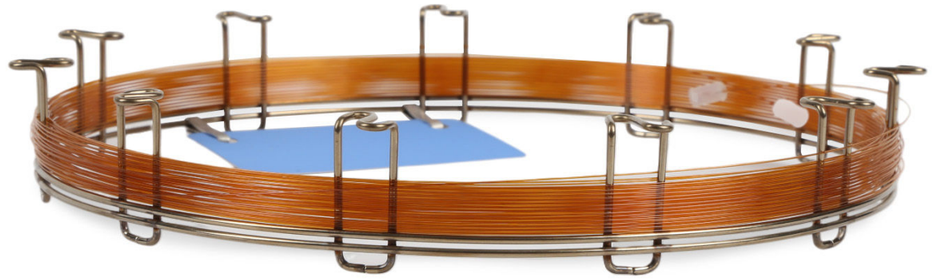


Need support with applications or product selection?

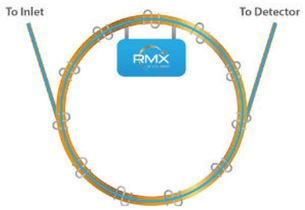
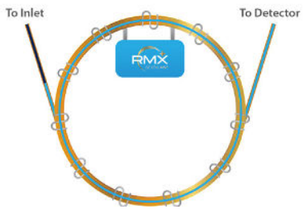
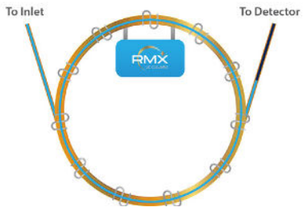
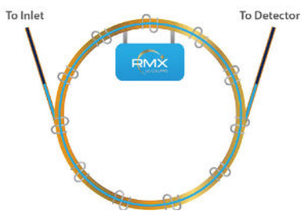
Contact Technical Service!

Want help with quoting, purchasing, and more?

Contact Us!

Maximize Performance and Convenience with Designed-for-Purpose Formats

RMX-5Sil MS columns are available in four formats designed for better performance under specific use cases. Formats include integrated guard column and integrated transfer line options that are built within the same capillary tubing as the analytical column, reducing the number of leak-prone connections!

RMX Column Formats	Description	Benefits
Analytical 	Stationary phase fully coats the entire column length.	• Provides maximum sensitivity for trace-level detection on highly sensitive instruments, such as GC-MS/MS systems. • Maximizes data compliance—keeps calibration and QC criteria passing over a longer period of time.
Integra-Guard 	At the **inlet end**, a deactivated section of tubing without stationary phase serves as a built-in guard column, giving you protection without a leak-prone guard-to-column connection.	• Maximum durability for protection against dirty sample matrices. • Maximum uptime and retention time stability even after multiple column trims. • Built-in Integra-Guard guard column protects the analytical column without an additional connection, making it ideal for MS methods. • Maximizes focusing, allowing for larger volume injections.
Integra-Transfer Line 	At the **detector end**, a deactivated section of tubing without stationary phase serves as a built-in transfer line.	• Minimizes transfer line bleed, better protecting the MS detector. • ***Unique to Restek!***
Dual **(Integra-Guard and Integra-Transfer Line)** 	Dual Format • At the **inlet end**, a deactivated section of tubing without stationary phase serves as a built-in guard column. • At the **detector end**, a deactivated section of tubing without stationary phase serves as a built-in transfer line.	• Provides the benefits of both the Integra-Guard and Integra-transfer line formats. • ***Unique to Restek!***

Stationary Phase and Deactivation

Deactivation Layer Only

Featured Products

RMX-5Sil MS GC Capillary Column

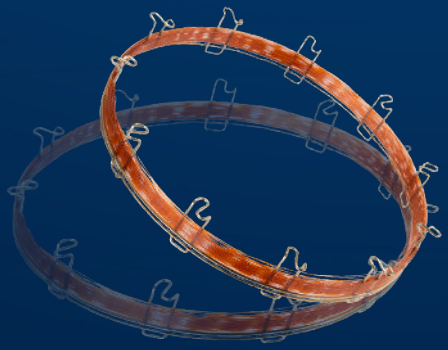
- Next-generation TriMax deactivation creates a resilient stationary phase and exceptionally neutral sample flow path, delivering the stability needed for extended calibration intervals and more reliable data.
- Maximum inertness improves peak shape for problematic active compound classes, achieving lower detection limits and picogram-level sensitivity for confident quantification of a wide range of analytes.
- Superior column performance supports method consolidation for increased productivity and scaled down sample extraction volumes for reduced solvent use.

Catalog No.	Product name	Units
47302	RMX-5Sil MS GC Capillary Column, 20 m, 0.18 mm ID, 0.18 µm	ea.
47302-135	RMX-5Sil MS GC Capillary Column, 20 m, 0.18 mm ID, 0.18 µm, with 5 m Integra-Guard	ea.
47311	RMX-5Sil MS GC Capillary Column, 20 m, 0.18 mm ID, 0.36 µm	ea.
17320	RMX-5Sil MS GC Capillary Column, 15 m, 0.25 mm ID, 0.25 µm	ea.
17320-124	RMX-5Sil MS GC Capillary Column, 15 m, 0.25 mm ID, 0.25 µm, with 5 m Integra-Guard	ea.
17323	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 0.25 µm	ea.
17323-124	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 0.25 µm, with 5 m Integra-Guard	ea.
17323-177	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 0.25 µm, with Integra-Transfer Line	ea.
17323-124177	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 0.25 µm, with 5 m Integra-Guard & Integra-Transfer Line	ea.
17326	RMX-5Sil MS GC Capillary Column, 60 m, 0.25 mm ID, 0.25 µm	ea.
17335	RMX-5Sil MS GC Capillary Column, 15 m, 0.25 mm ID, 0.50 µm	ea.
17338	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 0.50 µm	ea.
17338-124	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 0.50 µm, with 5 m Integra-Guard	ea.
17353	RMX-5Sil MS GC Capillary Column, 30 m, 0.25 mm ID, 1.00 µm	ea.
17324	RMX-5Sil MS GC Capillary Column, 30 m, 0.32 mm ID, 0.25 µm	ea.
17339	RMX-5Sil MS GC Capillary Column, 30 m, 0.32 mm ID, 0.50 µm	ea.
17354	RMX-5Sil MS GC Capillary Column, 30 m, 0.32 mm ID, 1.00 µm	ea.

RMX-5Sil MS Column and Inlet Liner Kits

- Maximize trace-level sensitivity with kits that combine the next-generation inertness of RMX columns and Topaz inlet liners to give you a truly inert sample flow path and more confidence in your analytical data.
    - RMX columns—featuring TriMax deactivation technology—deliver maximum inertness, sensitivity, and durability for demanding applications that include active compounds, such as semivolatiles analysis.
    - Choose from single-taper and Precision-style Topaz inlet liners, both contain wool and are thoroughly passivated, minimizing analyte breakdown in the inlet.
- Get the convenience of a manufacturer-specific inlet liner and our most popular RMX-5Sil MS column format (30 m, 0.25 mm ID, 0.25 µm) in one easy order.

Catalog No.	Product name	Units
17323-AG01	RMX-5Sil MS Precision Liner Kit for Agilent, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23305 (5-pk).	kit
17323-AG02	RMX-5Sil MS Single Taper Liner Kit for Agilent, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23303 (5-pk).	kit
17323-TH01	RMX-5Sil MS Precision Liner Kit for Thermo, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23267 (5-pk).	kit
17323-TH02	RMX-5Sil MS Single Taper Liner Kit for Thermo, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23447 (5-pk).	kit
17323-SH01	RMX-5Sil MS Precision Liner Kit for Shimadzu, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23320 (5-pk).	kit
17323-SH02	RMX-5Sil MS Single Taper Liner Kit for Shimadzu, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23336 (5-pk).	kit
17323-PE01	RMX-5Sil MS Precision Liner Kit for PerkinElmer, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23799 (5-pk).	kit
17323-PE02	RMX-5Sil MS Single Taper Liner Kit for PerkinElmer, Includes 1 ea.: column cat.# 17323 (30 m, 0.25 mm ID, 0.25 µm) and liner cat.# 23800 (5-pk).	kit



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