

SpectrAline™ Cartridges

Optimized Sample Introduction for
High-Sensitivity MRR

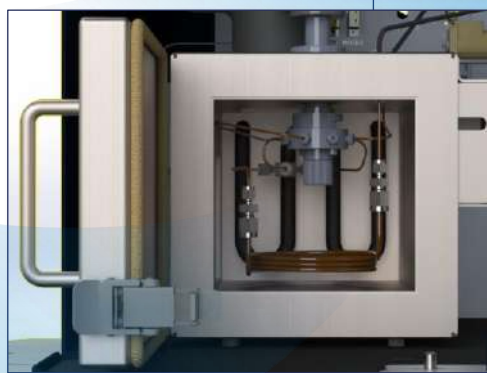


BrightSpec's MRR platforms combined
with Restek's industry-leading
chemistry consumables provide simple
solutions for challenging samples and
analytes.

Why SpectrAline™

SpectrAline™ Cartridges represent a new portfolio of precision-engineered consumables developed through a strategic technical collaboration between BrightSpec, pioneers in Molecular Rotational Resonance (MRR) spectroscopy, and Restek, global leaders in column technology.

Purpose-built for the spectraMRR™ and isoMRR™ platforms, SpectrAline Cartridges redefine sample introduction for MRR—enhancing the capture, concentration, and controlled transfer of volatile and compounds into the measurement region.

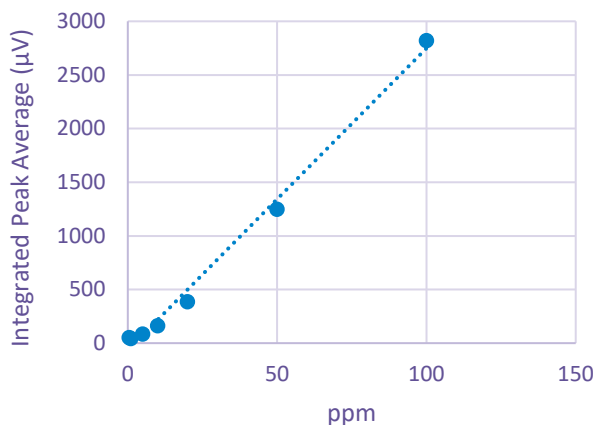


Combining Restek's expertise in the selective capture of volatiles with BrightSpec's structure-specific (MRR) detection, SpectrAline™ Cartridges enable:

- **Higher Sensitivity Where It Matters**
- **Expanded Matrix Compatibility**
- **Simplified Workflows**

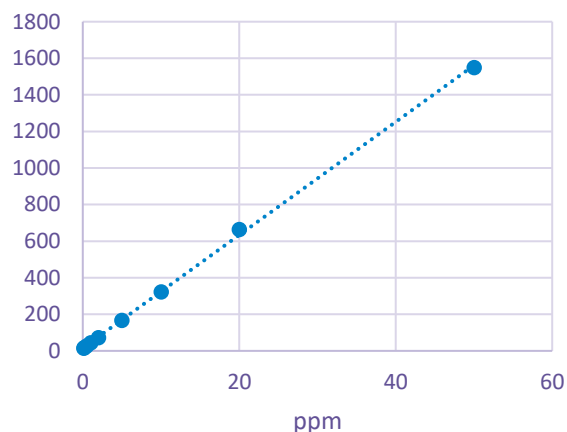
Applications

Ethylene Glycol



Linear Range: 5-100 ppm
Linearity: >0.99
LOQ: 5 ppm

Ethylene Oxide



Linear Range: 0.5-50 ppm
Linearity: >0.999
LOQ: 500 ppb

Quantitation and molecular ID simplified.

MRR's unique molecular specificity plus SpectrAline™ cartridges enable challenging analytes to be quantified in complex matrices, no derivatization or ambiguous results.



Food & Authenticity



VOC's



Impurity Analysis



Structure Identification

About the Cartridges

SpectrAline Carbowax

Highly polar, hydrogen-bonding stationary phase which emphasizes polarity-driven separations, making them ideal for alcohols, ketones, aldehydes, and amines. These compounds tend to have high dipole moments, which directly translates to strong rotational spectroscopy sensitivity. Comes in 1M and 2 M formats.

SpectrAline Hayesep T

Porous polymer adsorbent for very light volatiles. Hayesep columns retain very light and volatile molecules, optimizing sample introduction, and enabling MRR to identify and quantify small molecules that are often challenging for other analytical techniques. Comes in 1M and 2 M formats.

SpectrAline Porapak T

Moderately retentive porous polymer for light organics and VOCs. Porapak columns concentrate small VOCs and enhance sensitivity for MRR workflows. Comes in 1M and 2 M formats.



SpectrAline RTX-1

Nonpolar, boiling-point-driven separation phase. RTX-1 columns separate compounds almost entirely by boiling point. Optimizes sample introduction and sensitivity while MRR provides molecular specificity. Comes in 1M format.

Learn how MRR + SpectrAline™ Cartridges can power your chemistry

Get In Touch

