Most chromatographers have been plagued with additional peaks in a chromatogram from time to time. The key, then, is to determine the source of these unwanted peaks and eliminate them.

We know, we know … Easier said than done.

Possible sources of unexpected peaks can come from nearly everywhere—ranging from, but not limited to, incorrect sample preparation, electronic noise, accidental contaminants, and sample carryover left in the detector, column, syringe, or inlet.

A common source of additional peaks in a chromatogram—most troubling for column manufacturers—is **septum bleed**.

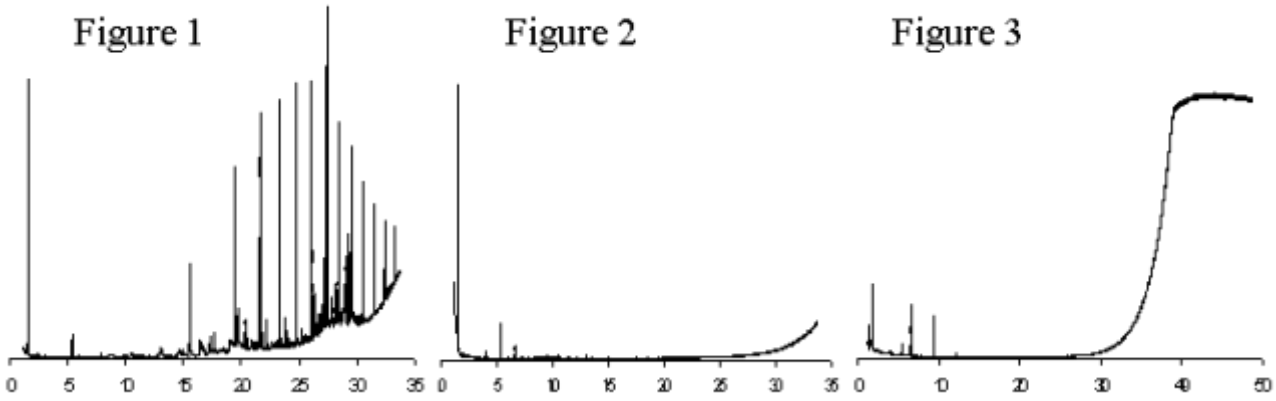
It's typical to install a new septum in the inlet of a new column; however, a new and unconditioned septum can often be a source of contamination that will result in peaks in the chromatogram.

Users see the additional peaks and instantly blame them on the column as the peaks were not present before the column was installed. Chromatographers with mass spectra identification can even identify the peaks as silicon containing compounds, realize that the stationary phase of the column contains silicon, and further cement the notion that the column is bad.

In reality, the peaks seen in the spectrum are actually due to septum bleed. Septa are made of the same polymers that comprise the stationary phase of the column giving compounds that would be similar to column bleed compounds. The fact that peaks are seen shows that the compounds are being separated by the column, which means that they were introduced in the front of the column.

If the column was bleeding, peaks would not be seen as the column would bleed from the whole length of the column at the same time and would not result in a peak, but a general rise in the baseline as the temperature increases.

Presented below, **Figure 1** shows a chromatogram of septum bleed, whereas **Figure 2** shows a normal baseline chromatogram. **Figure 3** shows a chromatogram where the phase has been intentionally ruined to show column bleed.



Related resources:

- Gas Chromatography
- Two Ways to Attain Sharper Peak Shape and Higher Sensitivity in Gas Chromatography
- The Importance of System Conditioning After Installing a New Gas Chromatography Column
- Gas Chromatography Users Guide
- Gas Chromatography Troubleshooting Guide
- Gas Chromatography Column Selection for USP Methods

- Gas Chromatography Accessories

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