

GC Analysis of Basic and Neutral Compounds on Agilent J&W FactorFour VF-35ms with EZ-Guard

Application Note

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Introduction

Contamination from complex matrices can reduce column lifetimes and increase costs. The remedy is to use an EZ-Guard GC column from Agilent. Our EZ-Guards consist of a guard section seamlessly attached to a GC column. The absence of a coupling maintains peak shapes and high responses, delivering sustained high performance with no risk of leaks or active sites.

Basic and neutral compounds are analyzed in many multicomponent environmental methods, such as EPA 8270. However, these assays can suffer from system and column contamination due to the complexity and non-volatility of the matrix extracts. By operating as a contamination collector, the EZ-Guard column optimizes system uptime and extends column lifetime when used for multicomponent methods.

This application note describes the analysis of basic and neutral components using the J&W FactorFour VF-35ms with EZ-Guard.



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Materials and Methods

Column: VF-35ms, 30 m x 0.25 mm ID, df=0.25 µm, + 10 m EZ-Guard (part number CP9027)
Sample Size: 1 µL, split ratio 1:75
Sample Conc: 20 µg/mL in methylene chloride
Temp Program: 50 °C to 300 °C (10 °C/min)
Carrier Gas: H₂
Pressure: 80 kPa
Injector Temp: 275 °C, split
Detector Temp: 325 °C, FID

Results and Discussion

The peaks in Figure 1 have excellent peak shape, demonstrating that the EZ-Guard column is inert.

Conclusion

The EZ-Guard offers enhanced column lifetime when analyzing samples in a complex matrix and, at the same time, gives excellent chromatographic performance for the J&W FactorFour VF-35ms analytical column. Agilent manufactures a wide range of GC

columns with EZ-Guard. The columns are quick and easy to install and operate, boosting productivity. In addition, the last meter of the EZ-Guard columns are also uncoated, functioning as an integrated transfer line that improves efficiency by providing faster detector stabilization.

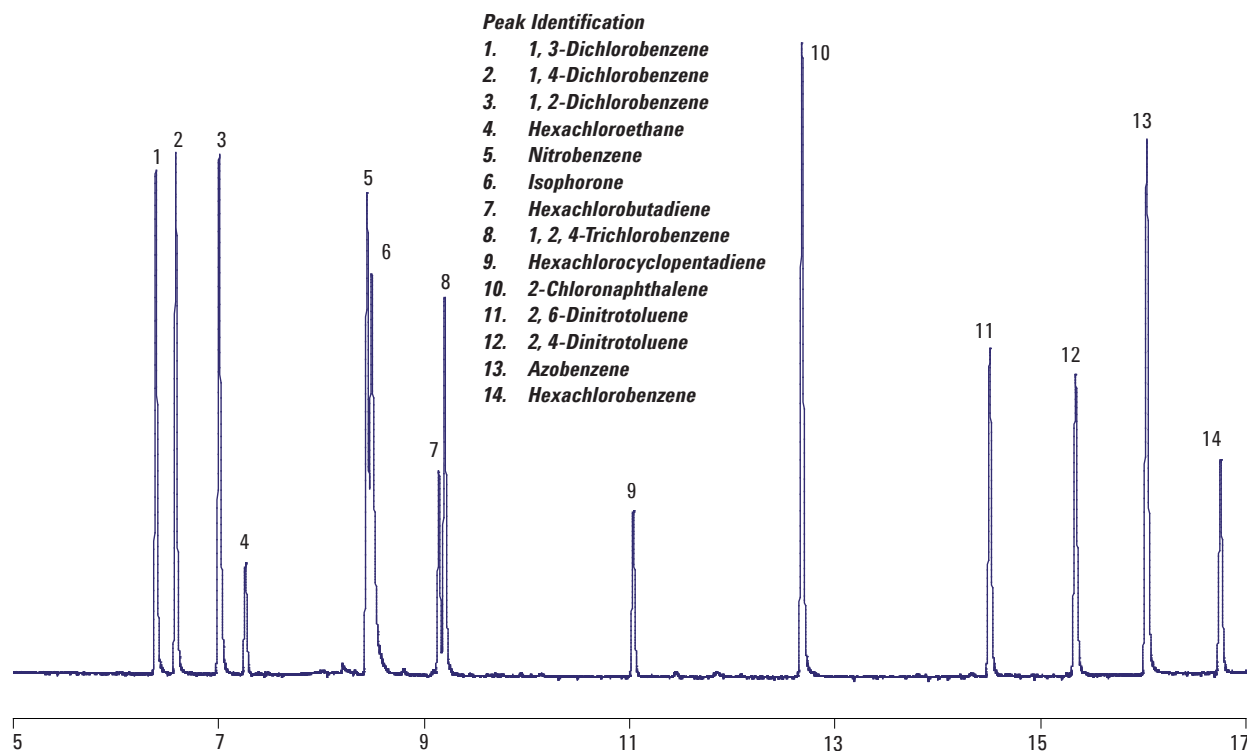


Figure 1. Good separation and peak shape of 14 base neutrals by GC using VF-35ms with EZ-Guard

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