Use Hydrogen Carrier to Analyze More Compounds

New Agilent HydroInert source for GC/MS hydrogen carrier gas

Helium has long been the carrier gas of choice for GC and GC/MS analyses. However, global helium shortages have reduced the availability—and increased the cost—of helium gas, jeopardizing the operations of labs that depend on gas chromatography.

Hydrogen is a renewable, low-cost gas that is a suitable alternative for many GC/MS applications. But because it is not inert, hydrogen does not work well with semivolatile organic compounds (SVOCs) like those described in methods, such as EPA 8270.

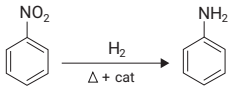
Agilent HydroInert source

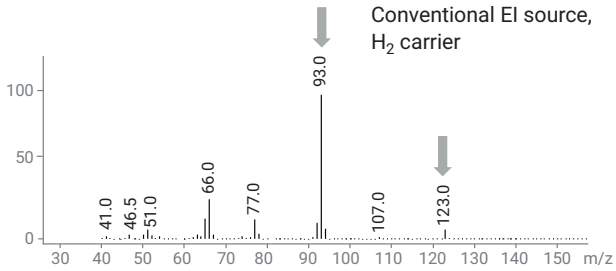
The new Agilent HydroInert source helps address this problem. It is designed to improve chromatographic efficiencies with a hydrogen carrier, allowing you to:

- Maximize your return on investment for hydrogen carrier gas
- Achieve faster, shorter separations
- Reduce sensitivity loss and spectral anomalies
- Minimize downtime caused by system maintenance and ion source cleaning

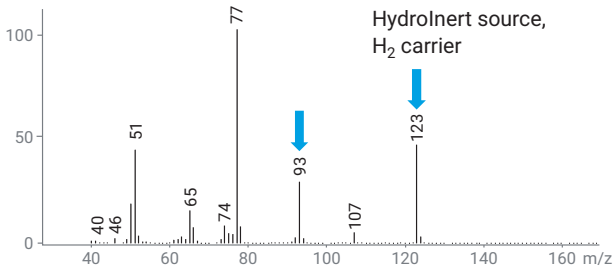
Analysis of nitrobenzene—a compound vulnerable to interactions with hydrogen

These extracted ion chromatograms (EIC) represent the analysis of nitrobenzene with hydrogen carrier gas.





The extractor source (3 mm extraction lens) showed hydrogenation to aniline with the abundant *m/z* 93 ion.



The HydroInert source showed an improved ratio of *m/z* 123.

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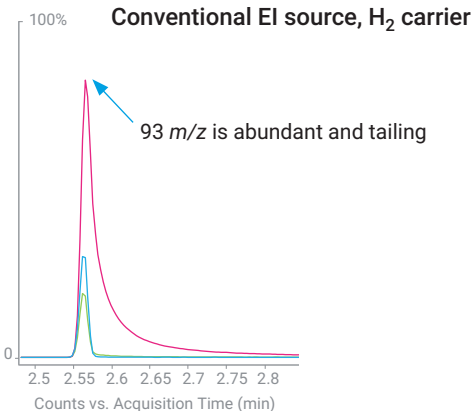
Mass spectra for the peak eluting at nitrobenzene retention time using hydrogen carrier gas



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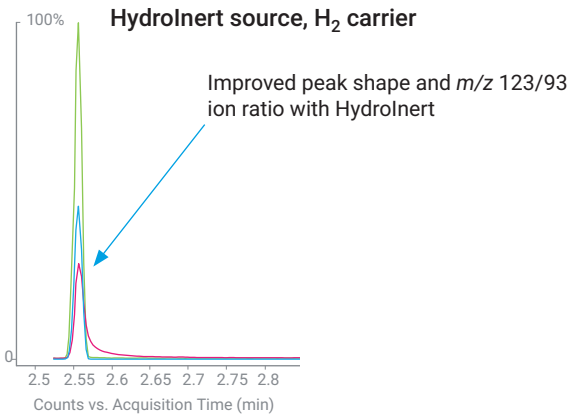

The HydroInert source showed an improved mass spectrum that correlates to nitrobenzene.

Ordering information

Description	Part Number
Product	
HydroInert complete source assembly for 5977 (recommended)	G7078-67930
HydroInert GC/MSD upgrade (contains parts needed to upgrade an existing 5977A/B Inert Plus source)	5505-0083
HydroInert complete source assembly for 7000 TQ (recommended)	G7006-67930
HydroInert GC/TQ upgrade (contains parts needed to upgrade an existing 7000C/D Inert Plus source)	5505-0084
Instrument	
5977C Inert Plus main frame with the HydroInert source	G7077C #011
5977C Inert Plus bundle with the HydroInert source	G7077CA #011
7000E GC/TQ with the HydroInert source	G7010CA #011
Accessories	
Install kit for GCs, stainless steel (contains 1/8” stainless steel tubing, fittings, Big Universal Trap for hydrogen, and tool kit)	19199S
J&W HP-5ms Ultra Inert GC column, 20 m, 0.18 mm, 0.18 µm	19091S-577UI
CrossLab Application Services	
Method and application services	H2149A
	R1736A
Method optimization	R1736C
	R-21H-501

Partner with Agilent CrossLab to reduce the time it takes to reach workflow productivity with the new Agilent HydroInert source

Our global team of scientific and technical experts harness their deep knowledge of hydrogen best practices to address your application needs. Let us help you optimize your method, so you can get the results you need in the most efficient way possible.

Learn more: www.agilent.com/chem/method-applications-development

Learn more about the HydroInert source, and the benefits of alternate carrier gases.
www.agilent.com/chem/hydroinert

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