



Approaches to Optimize Volatiles Analysis per EPA Method 8260

Craig Marvin Global Environmental Industry Manager

NEMC EMS July 2015



Helping Labs Optimize EPA Method 8260 Addressing demand for lab-wide value and productivity

Key challenges of Contract Laboratory



Lab manager: How do I reduce the complexity of the enterprise?



Team Lead: How do I optimize the instrument performance?



Procurement: How can we lower overall cost of ownership?





Helping Labs Optimize EPA Method 8260 Performance, Maintenance and Cost of Operation

Improving Sensitivity

5977A Extractor Source

Maintaining Separation Efficiency

Ultra-Inert Flow Path

Reducing Maintenance

Self-Cleaning Ion Source

Reducing Cost of Operation

Helium Conservation



Comparison: 5977A Inert and Extractor Ion Source



Extractor Source "Etune" Sensitivity Increase Improving Signal and S/N for VOC Analysis





Reducing Analyte Losses Inert Flow Path for the 7890B GC / 5977A MSD



From inlet-to-detector - **COMPLETE DEACTIVATION** of the sample path!



System Maintenance

Greatest disruption to workflow and productivity





Self-Cleaning Ion Source In situ or on-board source cleaning





Helium Savings Calculator Extend helium supply and lower cost

Carrier Gas Savings Calculator

Change values in gray boxes to calculate savings for your operating parameters

Method:Typical Split GC methodColumn:30m x 0.25mm x 0.25um

Gas Flow Conditions

He Carrier Flow (mL/min):	1.5
He Split flow (mL/min):	190
Gas Saver Flow (mL/min):	20
Gas Saver On (min):	3
Run Time(min.):	15
Gas Volume in Cylinder (L):	8000
Runs per Day:	30
He Cylinder Cost (\$):	300
N2 Cylinder Cost (\$):	60

Parameter	No Conservation	With Conservation
Daily He Usage (L)	276	25
He Cylinder Life (days)	29	320
Daily N2 Usage (L)	0	21
N2 Cylinder Life (days)	0	376
Yearly He Cost (\$)	3,774	342
Yearly N2 Cost (\$)	0	58
Yearly Total Gas Cost (\$)	3,774	400
Savings vs. No Gas Saver (\$)	0	3,374

Helium Conservation

- Helium cylinder life extended to ~12 months
- Greatly reduces annual gas costs

Additional Benefit

- Reduces dependence on Helium deliveries
- Ensures business continuity



Thank you Let's Continue the Conversation

www.agilent.com Access Agilent Facebook (@Agilent.Tech Twitter (@Agilent LinkedIn

