

HOW TO REDUCE GC MAINTENANCE TO INCREASE YOUR SAMPLE THROUGHPUT





How much is GC maintenance costing you in lost revenue?

Most environmental labs know the disastrous implications of unreliable results and the pain of having to repeat or verify suspect findings. Data inaccuracy, often a result of degradation, build-up, or the adsorption of analytes along the GC flowpath, costs labs time and money. Minimizing activity along the GC and GC/MS flowpath eliminates surface interaction with analytes, improving peak shape and detection accuracy.

Inlet liners are critical links in the flowpath. Interaction of the sample with active sites in the liner and glass wool can result in build-up, impacting the transfer of compounds into the column. Consequently, this is the most frequently changed component on a GC.

Columns represent the largest surface area along the flowpath and have the biggest impact on data quality. An inert column enables more samples to be processed accurately and reliably between column maintenance.

Have you ever considered how much time your lab spends trimming or changing columns, replacing liners and how much this costs in terms of lost revenue?

CALCULATING THE TRUE COST OF GC MAINTENANCE



Use this interactive worksheet to calculate the cost of GC column and liner maintenance in your lab and the return on investment for using Ultra Inert Columns and Liners.

Parameter	Details	Enter values here.	To enter the values, open this PDF in the Adobe Acrobat App.
A Labor cost per hour	What are the hourly wages for your GC analyst or metrologist?	» <input type="text"/>	\$ per hr
B GC column maintenance frequency	How often do you trim/change the column per GC per year?	» <input type="text"/>	Instances per year
C GC downtime due to column maintenance	How long does it take to trim/replace a column and then condition the system, adjust the retention time windows, and run a system check standard?	» <input type="text"/>	Minutes
D Column maintenance labor costs per year (A x B X C/60)			\$ per year
E Number of Inlet Liner replacements/month	How many times do you change your inlet liners per month per GC?	» <input type="text"/>	Instances per month
F Time taken to replace a liner	How long does it take to change an inlet liner?	» <input type="text"/>	Minutes
G Liner replacement labor costs per year [A x (E x 12) x F/60]			\$ per year
H Number of samples per day	How many samples do you typically run in a 24 hr period per GC?	» <input type="text"/>	Samples
I Average price per sample	How much does your lab typically charge per GC sample?	» <input type="text"/>	\$ per sample
J Revenue lost, per GC, due to maintenance related downtime [(B x C/60) + ((E x 12) x F/60)] x ((H x I)/24]			\$ per year
K How many GCs are in your lab?	How many GCs are running customer samples?	» <input type="text"/>	GCs
L Revenue lost due to maintenance related downtime across your whole lab. (J x K)			\$ per year

REDUCE GC MAINTENANCE AND INCREASE YOUR REVENUE



Now that you know the cost of maintaining your GC columns and liners, let's look at a way to minimize the impact and generate more revenue.

Flowpath inertness is critical for accurate and reliable GC separation. Ultra Inert GC columns and liners minimize compound adsorption and degradation as the analyte moves through the flowpath, providing more accurate quantitation of active analytes. This is especially true for trace levels of acids, bases, and other tricky compounds.

Ultra Inert GC columns and liners also require less frequent maintenance and replacement. Typically, an Ultra Inert column will last between 20 and 50% longer than a conventional column. That's 20 to 50% less column maintenance and replacement. What impact will that have on your revenue? Use this calculator to find out. The numbers are for all the GCs in your lab.

Parameter	Details	Enter values here
M Extended Lifetime of UI Columns and Liners	In general, Ultra inert columns and liners have extended lifetimes relative to their non-UI counterparts. Enter a number between 20 and 50% to see what impact increasing column and liner life by this percent has on your bottom line.	» <input type="text"/> % <small>To enter the values, open this PDF in the Adobe Acrobat App.</small>
N The amount of time your lab would save per year as a result of the extended lifetime. $(((B \times C/60) + (E \times 12) \times F/60) \times M/100) \times K$		Hr
O The number of extra samples your lab could run in the time saved on maintenance tasks. $N/(24/H)$		samples
P Revenue these extra samples represent. $(O \times I)$		\$

RETURN ON INVESTMENT



Ultra Inert columns cost slightly more than a standard GC column. Will you get a return by investing in Ultra Inert columns? We've got another calculator to help you find out.

Parameter	Details	Enter values here	To enter the values, open this PDF in the Adobe Acrobat App.
Q Price difference	Enter the difference between the combined price of an Ultra Inert GC column and liner, versus your current column and liner price (combined). Typically, the difference is \$40 to 80 per column and \$4-6 per liner.	» <input type="text"/> \$	
R The return on investment you will get by investing in Ultra Inert columns and inlet liners for all your GCs $((P-QxK)/(QxK))*100$			%

The Ultra Inert GC flow path converts the time spent doing mundane lab maintenance to potential revenue-generating time. What else could you invest in and get such a great return on investment?

Upgrading to an Ultra Inert Flowpath is easier than you think

Swapping to an Agilent Ultra Inert column, liner, and other flowpath components is seamless, regardless of make or model of the GC instrument. Agilent can improve your ability to analyze difficult, active compounds – even at trace levels – by providing the tools required to ensure a highly inert flowpath.

More Information

Learn more about Agilent Inert Flowpath solutions, visit

www.agilent.com/chem/inert

Buy online:

www.agilent.com/chem/store

To download additional application examples, visit

www.agilent.com/chem

To find your local Agilent Representative or Agilent Authorized Distributor, visit

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