

## The Choice for Sensitivity



### Diamond MS Syringes

Improve the sensitivity of your MS analysis:

- Lowest syringe carryover
- Reduced non specific sample interaction and increased analyte recovery
- Ultra smooth removable needles with choice of surface treatment

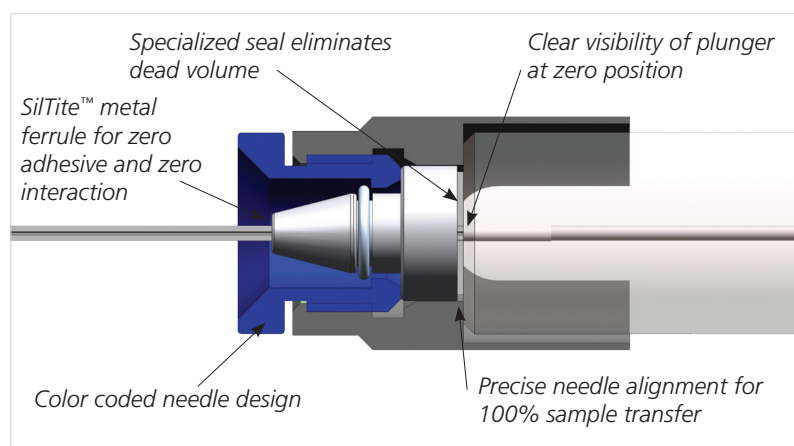


SGE understands how important your MS results are, and how precious your sample is, so we engineered new syringes and needles to bring you the Diamond MS Syringe range. Diamond MS syringes and needles are MS ready and designed to improve the sensitivity of your MS results.

## Lowest Syringe Carryover

### Diamond MS Syringe Design

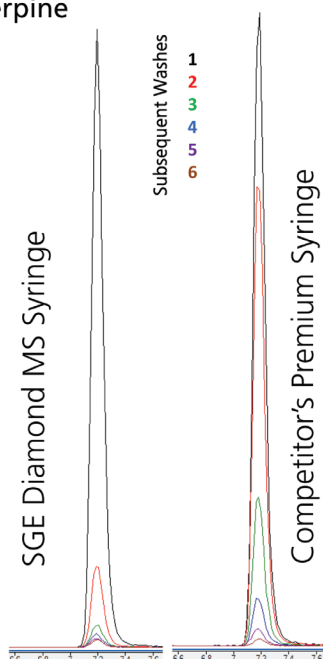
The unique design of Diamond MS syringes and removable needles ensures carryover is reduced to levels lower even than the best fixed needle syringes available. In the event of needle damage, Diamond MS needles provide a cost effective alternative to purchasing an entire fixed needle syringe.



### Unbeatable Cleanability

Diamond MS syringes have unbeatable cleanability thereby further reducing carryover.

**HPLC–MS Traces Showing Subsequent Washes of a Syringe Contaminated with Reserpine**

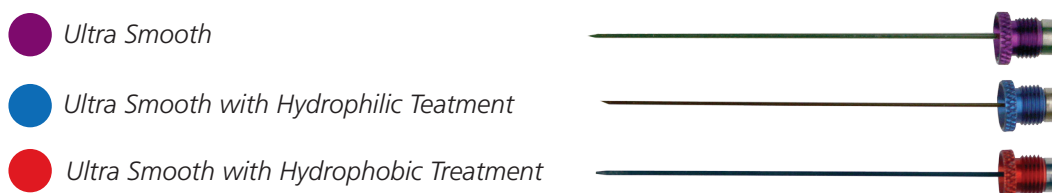


## Reduce Non-specific Interaction and Increase Sample Recovery

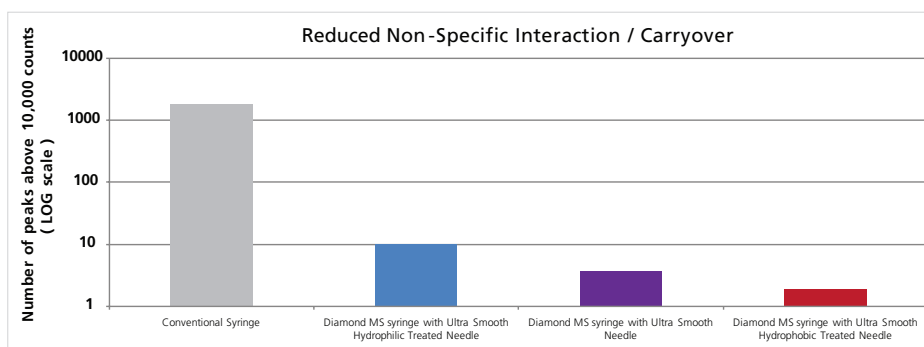
Anything in the sample flowpath can interact with your sample and impact your results, so SGE has developed 'Ultra Smooth' needles to reduce non specific interaction between your sample and the needle. To reduce non specific sample interaction even further, there are two needle treatment options available to avoid sample interactions due to hydrophilicity and hydrophobicity.

Needles are treated, similarly to SGE's highly successful Silflow product, which is extremely stable – even at temperatures up to 350 °C. Unlike some competitor's product, SGE needles do not have a glassy coating which would typically fill the valleys of a metal surface, be alkali effected and can even undesirably act like a phase (similar to a capillary column).

3 Ultra Smooth needles available for you to choose based on your sample properties:



Clean syringes were washed 6 times with neat methanol, each wash was collected. Samples were then placed in an Eksigent Tempo LC system and the loading pump (50% methanol/0.1% Formic acid/water) used to infuse (initial flow of 2µl/min then reduced to 0.5 µl/min for analysis) via a nanospray III ion source into an AB Sciex QTRAP 5500. Spectra were collected for a positive EMS scan of 100-1000 amu.



Diamond MS syringes are 100 times more sensitive than a conventional syringe.

## The Choice for Sensitivity

How to choose your MS ready syringe and needle for improved sensitivity:

1. Choose a manual syringe or one specifically designed for your instrument
2. Select the syringe capacity
3. Choose the needle geometry – LC or GC injections, tip design and needle dimensions
4. Choose which 'Ultra Smooth' needle best suits your application



### SYRINGES

All syringes have a PTFE Plunger Tip

Volume (µL)	Part No.	Replacement Plunger P/N
<b>Manual Syringes</b>		
10	002750	0355101
25	003750	0355102
50	004750	0355105
100	005750	0355110
250	006750	0355120
500	007750	0355150
<b>Agilent Autosampler Syringes</b>		
10	002760	0355160
25	003760	0355161
<b>Shimadzu Autosampler Syringe</b>		
10	002780	0355180
<b>CTC PAL Autosampler Syringes</b>		
10	002770	0355170
25	003770	0355171
50	004770	0355172
100	005770	0355173
<b>Thermo RSH Autosampler Syringes</b>		
10	002790	0355190
25	003790	0355191
50	004790	0355192
100	005790	0355193

# Needles

Treated	Length (mm)	Gauge	OD (mm)	ID (mm)	Tip	Part No.
<b>LC Needles for 10-50 µL Syringes (Manual and Autosampler) note: select length 57 mm for Thermo RSH applications</b>						
Ultra Smooth Hydrophilic Treated	51	22	0.72	0.17	LC	0355210
Ultra Smooth Hydrophilic Treated	57	22	0.72	0.17	LC	0355215
Ultra Smooth Hydrophobic Treated	51	22	0.72	0.17	LC	0355220
Ultra Smooth Hydrophobic Treated	57	22	0.72	0.17	LC	0355225
Ultra Smooth	51	22	0.72	0.17	LC	0355230
Ultra Smooth	57	22	0.72	0.17	LC	0355235
<b>LC Needles for 100-500 µL Syringes (Manual and Autosampler) note: select length 57 mm for Thermo RSH applications</b>						
Ultra Smooth Hydrophilic Treated	51	22	0.72	0.17	LC	0355211
Ultra Smooth Hydrophilic Treated	51	22	0.72	0.37	LC	0355213
Ultra Smooth Hydrophilic Treated	57	22	0.72	0.17	LC	0355216
Ultra Smooth Hydrophobic Treated	51	22	0.72	0.17	LC	0355221
Ultra Smooth Hydrophobic Treated	51	22	0.72	0.37	LC	0355223
Ultra Smooth Hydrophobic Treated	57	22	0.72	0.17	LC	0355226
Ultra Smooth	51	22	0.72	0.17	LC	0355231
Ultra Smooth	51	22	0.72	0.37	LC	0355233
Ultra Smooth	57	22	0.72	0.17	LC	0355236
<b>GC Needles for 10-50 µL Syringes (Manual)</b>						
Ultra Smooth Hydrophilic Treated	50	26	0.47	0.11	Bevel	0355310
Ultra Smooth Hydrophilic Treated	50	25	0.50	0.20	Bevel	0355311
Ultra Smooth Hydrophobic Treated	50	26	0.47	0.11	Bevel	0355320
Ultra Smooth Hydrophobic Treated	50	25	0.50	0.20	Bevel	0355321
Ultra Smooth	50	26	0.47	0.11	Bevel	0355330
Ultra Smooth	50	25	0.50	0.20	Bevel	0355331
<b>GC Needles for 100-500 µL Syringes (Manual)</b>						
Ultra Smooth Hydrophilic Treated	50	25	0.50	0.20	Bevel	0355312
Ultra Smooth Hydrophilic Treated	50	23	0.63	0.32	Bevel	0355313
Ultra Smooth Hydrophobic Treated	50	25	0.50	0.20	Bevel	0355322
Ultra Smooth Hydrophobic Treated	50	23	0.63	0.32	Bevel	0355323
Ultra Smooth	50	25	0.50	0.20	Bevel	0355332
Ultra Smooth	50	23	0.63	0.32	Bevel	0355333
<b>Agilent and Shimadzu GC Autosampler Syringe Needles</b>						
Ultra Smooth Hydrophilic Treated	42	23	0.63	0.24	Cone	0355410
Ultra Smooth Hydrophilic Treated	42	23	0.63	0.11	Cone	0355411
Ultra Smooth Hydrophobic Treated	42	23	0.63	0.24	Cone	0355420
Ultra Smooth Hydrophobic Treated	42	23	0.63	0.11	Cone	0355421
Ultra Smooth	42	23	0.63	0.24	Cone	0355430
Ultra Smooth	42	23	0.63	0.11	Cone	0355431
<b>CTC PAL GC Autosampler 10-50 µL Syringe Needles</b>						
Ultra Smooth Hydrophilic Treated	50	23	0.63	0.24	Cone	0355510
Ultra Smooth Hydrophilic Treated	50	23	0.63	0.11	Cone	0355512
Ultra Smooth Hydrophobic Treated	50	23	0.63	0.24	Cone	0355520
Ultra Smooth Hydrophobic Treated	50	23	0.63	0.11	Cone	0355522
Ultra Smooth	50	23	0.63	0.24	Cone	0355530
Ultra Smooth	50	23	0.63	0.11	Cone	0355532
<b>CTC PAL GC Autosampler 100 µL Syringe Needles</b>						
Ultra Smooth Hydrophilic Treated	50	23	0.63	0.24	Cone	0355511
Ultra Smooth Hydrophobic Treated	50	23	0.63	0.24	Cone	0355521
Ultra Smooth	50	23	0.63	0.24	Cone	0355531
<b>Thermo RSH GC Autosampler 10-50 µL Syringe Needles</b>						
Ultra Smooth Hydrophilic Treated	57	23	0.63	0.24	Cone	0355610
Ultra Smooth Hydrophilic Treated	57	23	0.63	0.11	Cone	0355612
Ultra Smooth Hydrophobic Treated	57	23	0.63	0.24	Cone	0355620
Ultra Smooth Hydrophobic Treated	57	23	0.63	0.11	Cone	0355622
Ultra Smooth	57	23	0.63	0.24	Cone	0355630
Ultra Smooth	57	23	0.63	0.11	Cone	0355632
<b>Thermo RSH GC Autosampler 100 µL Syringe Needles</b>						
Ultra Smooth Hydrophilic Treated	57	23	0.63	0.24	Cone	0355611
Ultra Smooth Hydrophobic Treated	57	23	0.63	0.24	Cone	0355621
Ultra Smooth	57	23	0.63	0.24	Cone	0355631



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