

Recommended Supplies Listing for ICP-MS

Need to Keep Your Lab Operational in the "New Normal"?



Recommended ICP-MS consumables to keep your lab online and productive

Labs today are often operating with restricted access to meet strict social distancing requirements. If you are looking to keep your lab operational and striving to achieve optimal performance, Agilent is here to make sure you have everything you need, every step of the way.

With that in mind, Agilent technical experts have compiled a list of recommended products designed to:

- Help you keep your operations running as efficiently and productively as possible.
- List recommended supplies for different matrices to ensure you have the correct configuration for your analysis.
- Simplify installation and ensure your lab continues to produce reliable results.

It's all part of our commitment to helping your lab navigate its "new normal" in these unprecedented times.

Consumables for your ICP-MS

For a complete list of consumables suitable for your ICP-MS, follow the links below–selecting your ICP-MS model and lens type/configuration. Internet connection and Agilent.com Order Center account registration required to access "Favorite Products Lists"

7800 (G8421A/N8421A)

7850 (G8422AA/N8422AA)

7900 with x-lens (G8403A/N8403A)

7900 with s-lens (G8403A/N8403A #200)

8900 with x-lens (G3665A/N3665A including #100)

8900 with s-lens (G3665A/N3665A #200)

Recommended Supplies for 7800/7850/7900/8900 ICP-MS with X-lens for Routine Applications



Torches and Torch Box

Torches and supplies

- <u>G3280-80053</u> Torch, quartz, 2.5 mm id, 1/pk
- <u>G1833-65419</u> Long life Pt shield plate for ShieldTorch, 1/pk
- G1833-65421 ShieldTorch bonnet, quartz, 1/pk

Quartz connector tubes

- G3270-80025 Straight connector tube for use with 7850/7900/8900 with UHMI spray chamber
- G3270-80024 Connector tube with dilution port for use with 7800 with HMI

Sample Introduction

Nebulizer, MicroMist, borosilicate glass, 1/pk

- G3266-80004 for 7800/7900 with UniFit sample connector
- G3266-80005 for 8900 with PEEK ratchet nebulizer gas connector

Spray chamber (quartz), 1/pk

- G3280-80008 for 7800, non-UHMI
- G8400-67150 for 7850/7900/8900, UHMI

Peristaltic Pump Tubing

- G1833-65569 Tygon tubing,
 3-bridged, white/white tabs,
 1.02 mm id, for pumping sample, 12/pk
- G3280-67047 Tygon tubing,
 2-bridged, blue/orange tabs,
 0.25 mm id, flared ends, for pumping internal standard,
 12/pk
- G1833-65570 Ismaprene tubing, 3-bridged, yellow/ blue tabs, 1.52 mm id, for pumping drain, 12/pk
- G1820-65105 PFA sample tubing, 0.5mm ID, 1.6mm
 OD, 5m for standard sample introduction.

Interface

- <u>G3280-67040</u> sampler cone, Nickel, 1/pk
- <u>G3280-67009</u> Graphite gasket for sampling cone, 3/pk

Skimmer cone, Nickel, 1/pk.

- <u>G3280-67041</u> for 7800/7850
- <u>G8400-67200</u> for 7900/8900

Extraction-Omega lens assembly

- <u>G3280-67039</u> for 7800/7850
- <u>G8400-67001</u> for 7900
- <u>G3666-67300</u> for 8900

Vacuum Pump and Cooling System

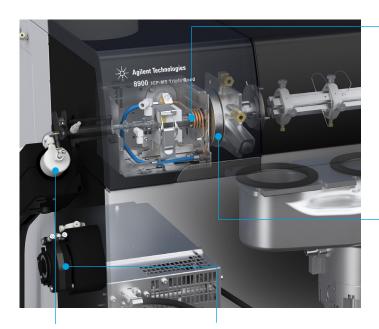
- X3760-64004 AVF Platinum pump oil for MS40+, 1L
- G1960-80039 Filter, oil mist, for MS40+ pump, 1/pk
- G3292-80012 Polyclear plus fluid, 2.5 gallons, for chiller.

Standard (aqueous) 7800/7850/7900/8900 ICP-MS Supplies Recommendations

Part Number	Product Description	Description and Usage	
5067-0294	Nickel sampler cone care package	Comprises 2 sampler cones with supplies required for routine maintenance, including a handy magnifier tool at no extra cost. Ensures proper cleaning/maintenance of the sampler cone for best sensitivity and long, stable operation. Magnifier tool allows the user to inspect the condition of the orifice on the sampler or skimmer cone/s.	
5190-9614	Magnifier 10X, LED lit for ICP-MS cones	Magnifier tool, for inspection and measurement of the orifice of the interface cones. Provides 10X magnification with LED illumination, manual focus and +/- 15 mm scaled reticle with 0.1 mm divisions. Required for routine maintenance to ensure proper cleaning/maintenance of the sampler cone for best sensitivity and long, stable operation.	
G3280-67061	Sampler cone, nickel, nickel-plated, 1/pk.	Optional cone which provides longer life and reduced cleaning compared to standard Ni sampler cone. Recommended for samples containing > 0.5% HCl, or routine operation with (U)HMI with max. aerosol dilution ratio.	
5188-5359	Detergent for cleaning interface cones and lenses, 1 gallon	Concentrated Citranox solution to be diluted to 2% v/v with ultrapure water for cleaning interface cones in ultrasonic bath.	Gitranox
5064-8101	Peristaltic pump tubing, PVC, black/black tabs, 0.76 mm id, flared ends, 12/pk	Recommended for introduction of high matrix samples, or for use with both Sample and ISTD uptake to achieve 1:1 dilution.	
G3266-80012	UniFit sample connector, 0.5mm id, 10/pk	Additional sample capillaries used to introduce sample into the nebulizer. Customers will need to periodically change this sample connector and should have extras on hand.	
G3266-80020	Nebulizer cleaner, for glass concentric nebulizers	Allows MicroMist nebulizer to be cleaned. This helps to dislodge particle build-up by back flushing, restoring nebulizer performance.	
G3161-80000	Nebulizer, Mira Mist, PTFE	Recommended for high solids applications such as environmental, geological, etc. Excellent resistance to acids (including HF) and organics; does not self-aspirate.	
G3139-65108	Nebulizer, MicroFlow, PFA with I-AS probe, 20 to 50 μL/min, 1/pk	Low flow self-aspirating PFA concentric nebulizer for analysis of high purity and hydrofluoric acid samples. To be used with integrated autosampler (I-AS), sample uptake tube terminates as a sampling probe.	
G4912-68000	Inert sample introduction kit, 2.5 mm id sapphire injector	Replaces standard sample introduction system with an inert system suitable for use with HF. Requires but does not include inert nebulizer (G3161-8000). Includes PFA end cap, spray chamber, connector tube, demountable torch and sapphire injector.	
G4912-68001	Inert sample introduction kit, 2.5 mm id platinum injector	Replaces standard sample introduction system with an inert system suitable for use with HF for semiconductor or other trace analysis applications. Requires but does not include inert nebulizer (G3161-8000). Includes PFA end cap, spray chamber, connector tube, demountable torch and platinum injector.	

Part Number	Product Description	Description and Usage	
G8412A#100	Argon Humidifier	The argon humidifier accessory is used to humidify the nebulizer and dilution gas when analyzing high matrix samples such as undiluted sea water. It helps to reduce blockage in the nebulizer and sample introduction system, improving long term stability. Customer installable.	8.0°U
CP17973	Gas Clean carrier gas purifier, 1/pk	Replacement moisture and oxygen filter to be used for Helium and Hydrogen cell (ORS) gas lines	
5190-0465	Stock tuning solution, 100 mL	Used for tuning by dilution to 1 or 10 $\mu g/L$. Contains Li, Mg, Y, Ce, TI and Co; 10 mg/L; matrix 2% HNO $_3$	The second secon
G6011B	Quiet cover for MS40+ rotary pump	Recommended for MS40+ rotary pump used with 7800, 7850, 7900, 8900. Features a sound-absorbing cabinet with resistant foam insulation to effectively reduces pump noise, while cushioned mounts minimize vibration.	

Recommended Supplies for 7900/8900 ICP-MS with S-lens for Semi-conductor Applications



Torches and Torch Box

Torches and supplies

- <u>G3280-80053</u> Torch, quartz, 2.5 mm id, 1/pk
- <u>G1833-65419</u> Long life Pt shield plate for ShieldTorch, 1/pk
- G1833-65421 ShieldTorch bonnet, quartz, 1/pk
- G3270-80024 Connector tube with dilution port for use with 79/8900 with s-lens

Sample Introduction

- G3139-65102 Nebulizer, MicroFlow with I-AS probe, PFA, 200 μL/min, 1/pk for 79/8900 with s-lens
- G3280-80008 Spray chamber (quartz), non-UHMI, 1/pk for 79/8900 with s-lens

Peristaltic Pump Tubing

- G1833-65569 Tygon tubing,
 3-bridged, white/white tabs,
 1.02 mm id, for pumping sample, 12/pk
- G3280-67047 Tygon tubing,
 2-bridged, blue/orange tabs,
 0.25 mm id, flared ends, for pumping internal standard,
 12/pk
- G1833-65570 Ismaprene tubing, 3-bridged, yellow/ blue tabs, 1.52 mm id, for pumping drain, 12/pk
- G1820-65105 PFA sample tubing, 0.5mm ID, 1.6mm OD, 5m for standard sample introduction.

Interface

- G3280-67036 Sampler cone, Platinum, 1/pk
- <u>G3280-67009</u> Graphite gasket for sampling cone, 3/pk

Skimmer cone, Platinum, 1/pk.

- <u>G3280-67064</u> for 7900
- <u>G3666-67401</u> for 8900

Extraction-Omega lens assembly

- <u>G8400-67002</u> for 7900
- <u>G3666-67400</u> for 8900
- <u>G3666-67300</u> for 8900

Vacuum Pump and Cooling System

- X3760-64004 AVF Platinum pump oil for MS40+, 1L
- G1960-80039 Filter, oil mist, for MS40+ pump, 1/pk
- <u>G3292-80012</u> Polyclear plus fluid, 2.5 gallons, for chiller.

Platinum interface cones Supplies Recommendations

Platinum interface cones are required for analysis of aggressive acids (especially hydrofluoric acid digests) and when O2/Ar option gas is used for analyzing organic solvents. Users switching from the standard Ni cone will also need to install the brass skimmer base to prevent overheating of the cone and potential damage to the Pt cone.

Platinum skimmer cones with a copper base are recommended for lower limits of detection and for higher-matrix samples.

Platinum skimmer cones with a nickel base are recommended for aggressive acids (especially HCl, HF, and $HClO_4$), organic solvents and for higher-matrix samples.

Part Number	Product Description	Description and Usage	
G3280-60621 (7800) G8400-60625 (7900) G3666-60311 (8900)	Skimmer base, brass, for x-lens, ICP-MS	Required with Pt interface cones. Users switching from the standard Ni cone will need to install the brass skimmer base to prevent overheating of the cone and potential damage to the Pt cone.	
5067-0296	Platinum sampler cone care package	Comprises 2 sampler cones with supplies required for maintenance, including a handy magnifier tool at no extra cost. Ensures proper cleaning/maintenance of the sampler cone for best sensitivity and long, stable operation. Magnifier tool allows the user to inspect the condition of the orifice on the sampler or skimmer cone/s.	
5067-0297	Nickel-plated Platinum cone care package	Comprises 2 sampler cones with supplies required for maintenance, including a handy magnifier tool at no extra cost. Ensures proper cleaning/maintenance of the sampler cone for best sensitivity and long, stable operation. Magnifier tool allows the user to inspect the condition of the orifice on the sampler or skimmer cone/s.	
G3280-67036	ICP-MS sampler cone, Platinum, 1/pk	Suitable for 78/79/8900 ICP-MS. Use with platinum skimmer cone and brass skimmer base.	
G3280-67142	ICP-MS sampler cone, Pt/Ni-plated, 1/pk	When used with aggressive matrices such as 10% aqua regia, the nickel plated Pt cone extends cone lifetime by more than 2X and reduces cone maintenance with a simple water sonication cleaning routine that reduces cleaning frequency by more than 3X, compared to the standard Pt cone. Suitable for 78/79/8900 ICP-MS. Use with platinum tip, nickel base skimmer cone, and brass skimmer base.	
G8400-67201	7900/8900 ICP-MS skimmer cone, Pt, x-lens, 1/pk	Platinum skimmer cone, with copper base for 7900/8900 ICP-MS. Use with platinum sampler cone and brass skimmer base.	CONTRACTOR OF THE PROPERTY OF
G8400-67202	7900/8900 ICP-MS skimmer cone, Pt/Ni, x-lens, 1/pk	Platinum skimmer cone, with nickel base for 7900/8900 ICP-MS. Use with platinum sampler cone and brass skimmer base.	OK721
<u>G3280-67060</u>	77/78/8800 ICP-MS skimmer cone, Pt, x-lens, 1/pk	Platinum skimmer cone, with copper base for 7800/7850 ICP-MS. Use with platinum sampler cone and brass skimmer base (G3280-60621).	
G3280-67063	77/78/8800 skimmer cone, Pt/Ni, x-lens, 1/pk	Platinum skimmer cone, with nickel base for 7800/7850 ICP-MS. Use with platinum sampler cone and brass skimmer base (G3280-60621).	

If you need more guidance to help you recommend the right sampling cone, skimmer cone, and skimmer base for your customer's instrument configuration and application, please refer to the <u>cone selection guide available here</u>.

Operating Supplies Kits Recommendations

The configurable supplies kits listed below include the recommended options for ICP-MS instruments with the standard configuration, and provides the supplies typically required for up to 12 months routine operation.

Part Number	Product Description	Description and Usage
G1131A	Configurable supplies kit for 7900 ICP-MS with x-lens.	Provides all the supplies required to keep a standard 7900 ICP-MS instrument with x-lens running for up to 12 months (depending on use)
#100	Included options:	without worrying about reordering supplies.
#200	X-lens mandatory option	
#300	Ni sampling cone	
#402	Ni skimmer cone	
	Oil for the roughing pump	
<u>G1131A</u>	Configurable supplies kit for 7900 ICP-MS with s-lens.	Provides all the supplies required to keep a semiconductor 7900 ICP-MS instrument with s-lens running for up to 12 months (depending on use)
#101	Included options:	without worrying about reordering supplies.
#202	S-lens mandatory option	
#303	Pt sampling cone	
#402	Pt skimmer cone	
	Oil for the roughing pump	
<u>M5141A</u>	Configurable supplies kit for 7800/7850 ICP-MS with these options:	Provides all the supplies required to keep a standard 7800/7850 ICP-MS instrument running for up to 12 months (depending on use) without
#100	Ni sampling cone	worrying about reordering supplies.
#200	Ni skimmer cone	
#301	Oil for the roughing pump	
G1091A	Configurable supplies kit for 8900 ICP-MS with x-lens.	Provides all the supplies required to keep a standard 8900 ICP-MS instrument with x-lens running for up to 12 months (depending on use)
#100	Included options:	without worrying about reordering supplies.
#200	Ni sampling cone	
#300	Ni skimmer cone	
#401	X-lens mandatory option	
	Octopole for X-lens option	
G1091A	Configurable supplies kit for 8900 ICP-MS with s-lens.	Provides all the supplies required to keep a semiconductor 8900 ICP-MS instrument with s-lens running for up to 12 months (depending on use)
#102	Included options:	without worrying about reordering supplies.
#204	Pt sampling cone	• •
#301	Pt skimmer cone	
#400	S-lens mandatory option	
	Octopole for S-lens option	

If you need more guidance about the contents of the kit, and for further guidance on the alternative options available, please refer to the <u>Operating Supplies Kits for Agilent ICP-MS brochure available here</u>.

SPS 4 Autosampler Supplies Recommendations (ICP-MS)

Part Number	Product Description	Description and Usage	
Instrument Option G8415A#002 Or G8410-60100	SPS 4 Autosampler cover kit, 1/pk	Recommended to fully enclose the autosampler to help reduce sample and standard contamination from dust and drafts.	
5043-0065	PVC Flexible Ducting 50 mm-id for SPS 4 cover kit, 5 m	Ducting required to enable removal of fumes from the autosampler with the cover fitted. Fitted with 56 mm OD cuffs.	
G8410-80101	SPS 4 probe 0.5 mm id with yellow markers. Inert, FEP sleeved for SPS 4 autosampler, 1/pk	Required to support routine operation of the SPS 4 autosampler.	
3710049000	Peristaltic pump tubing for supply of rinse solution to the autosampler, PVC Solvaflex, 3-bridged, grey/grey tabs, 12/pk	Required for routine operation as regular replacement of the pump tubing is recommended.) W W
6610025400	Sample rack for 17 mm od tubes, 60 positions	Additional sample racks are recommended to provide additional holding and storage capacity.	
6610026100	Rack overlay for 60-position sample rack. Allows 13 mm od tubes to be used in 60-position rack	Additional sample racks are recommended to provide additional holding and storage capacity.	
6610026600	Sample rack for 30 mm od tubes, 21 positions	Additional sample racks are recommended to provide additional holding and storage capacity.	The state of the s
5043-0064	Sample bottle 250mL for 5x60mm std rack, 1/pk	Additional sample bottles, 60mm-OD narrow neck LDPE for the 5 position standard rack used with ICP-MS. Provides additional standards storage capacity.	
00000001600L	Polypropylene sample tubes, 17 mm od, 130 mm height, 1000/pk	Sample tube recommended for the 60-position sample rack.	
190065200	Centrifuge tubes, screw-capped, 29 mm od, 50 mL polypropylene, 500/pk	Sample tube recommended for the 21-position sample rack.	

I-AS Autosampler Supplies Recommendations

Part Number	Product Description	Description and Usage	
G3160-65327	Peristaltic pump tubing set for pumping drain/uptake, Tygon with connectors, 5/pk.	Spare peristaltic pump tubing set with connectors for rinse pump on the I-AS autosampler.	
G3160-65307	Rinse bottle, external, 100 mL, with caps, 6/pk	Rinse station bottles for I-AS autosampler.	
G3160-65328	Drain tube to rinse + drain bottles I-AS, 2 pcs	Drain tubing, Tygon, from peristaltic pump to rinse bottle or drain bottle, for I-AS autosampler.	
G3160-65320	Rinse solution inlet/outlet tubing, I-AS	Tubing, rinse solution inlet/outlet for I-AS autosampler.	

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This information is subject to change without notice.

