



# IT'S MORE THAN JUST A VIAL... IT CAN AFFECT YOUR RESULTS AND RETURN ON INSTRUMENT INVESTMENT

It's easy to think of vials as simple, inexpensive components that don't affect your results. However, substandard vials, caps, and septa can lead to sample loss, contamination, and damaged autosampler needles.

Agilent understands that vials are a critical part of your analytical workflow—no less important than the column or the instrument. That is why Agilent vials are designed to meet the high standards you have come to expect from every Agilent product—including:

- Guaranteed consistent performance from lot-to-lot
- Unsurpassed rigor in quality control and manufacturing
- Better value for your money
- Easy selection based on volume, sample type, and instrument

# Stop unexpected peaks from impacting your results

With Agilent vials, you can rest assured that your *sample* is getting measured—not the indirect effects of the analytical flow path. No other supplier can promise such a comprehensive solution for getting your samples from injection to detection with minimal interference to maximize your productivity.

#### Think all vials are created equal? Think again!

Only Agilent vials have these quality and performance statistics:

30%
Time savings using our full range of short thread screw top vials and caps

Some other suppliers

30+
Inspection points. So you get the tightest dimensional specifications, every time

Up to \$100K
What some customers have saved annually using Agilent technical support and recommended vials

100% Agilent v rigorous

Agilent vials inspected under our rigorous vision testing system

100s of millions
Agilent vials shipped worldwide every year

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(and growing)

Countries we deliver to across the world, from Albania to Vietnam

33/51

Best in glass: All vials are made of type 33-51 coefficient of expansion for top performance

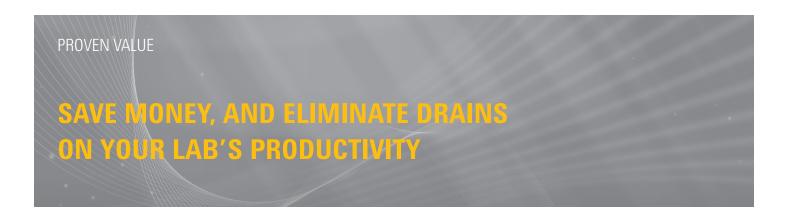
10+

Instrument brands with which Agilent vials/caps are compatibility tested 50%

Faster crimp speed: Our electric crimper lets you crimp your vial, not your style

**120** meters

Vials are small... but are manufactured in a facility as big as an aircraft hangar!



#### Why gamble with your results?

Using poor-quality vials (or the wrong vials for your application) can cause sequence problems, unnecessary downtime, expensive repairs, and the loss of precious samples

Agilent vials are the only vials that deliver time and cost savings:

- Reduced labor: Our short-thread screw-top vials make screwing/ unscrewing the cap up to 30% faster.
- **Less interference:** Agilent vials are made from analytical grades 33 and 51 glass, which will not remove analytes from sample matrixes.
- Fewer septa issues: Agilent septa are continually being improved to limit leaching, coring, sticking, push-through, hardness, and adsorption/absorption.
- Lower risk of breakage: Thicker glass walls help eliminate cracking during clamping, and a unique packing box keeps vials safe during transit and storage.
- Fast delivery and easy ordering: Everything you need from one trusted supplier, with worldwide distribution centers so your vial order reaches your lab within 48 hours.
- FREE 24/7 technical support: Our team is always available to provide fast, expert assistance, should any issues arise.



#### **Certified integrity and consistency**

Agilent Certified Vials are produced in an ISO 9001 certified environment, and manufactured/packaged to reduce contamination. Our vials are pierce tested with Agilent needles and syringes,

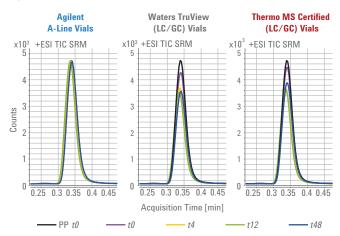
inspected with automated vision systems, and compatible with autosampler gripping and injection mechanisms.

# Introducing Agilent A-Line vials: The trusted choice for your precious samples and high precision analyses



- **Save hours of time:** Dramatically reduce the number of sample reruns.
- Get higher throughput: Surface inertness reduces peak response variability for more accurate results and less rework.
- Attain consistent recoveries: Be confident you're getting the most precise and consistent measurement from vial-to-vial, lot-tolot, and over time, of low-level analytes.
- Spend less: Save up to 25% on your laboratory spend by significantly reducing unplanned costs (such as troubleshooting, reruns, and downtime).
- Conform with demanding and regulated environments:
   Our Certification of Analysis provides specific data confirming vial appropriateness.

#### Agilent A-Line vials: Better analyte retention over time



Agilent A-Line vial shows superior analyte retention in this separation of doxepin. Note: Tests were carried out by Agilent.

#### Here's why "bargain" vials are not much of a bargain

Bargain vials can be made from type 70 or 71 COE glass, which has high metal content that can remove analytes—or destabilize the analyte through alkyl leaching. Agilent vials are made from type 33 and 51 glass, so you can be confident your results will not be compromised.

ASTM E438 Type I	ASTM E438 Type I
Class A	Class B
Linear COE	Linear COE
32 – 33 (+/- 1.5)	48 - 56 (+/- 2.0)

 $\begin{array}{ll} \text{Coefficient of expansion (COE) compliance} \\ -0\text{-}300\text{C, cm/cm} \times \text{CX10-7 (acceptable expansions} \\ \text{for analytical chromatographic purposes)}. \end{array}$ 

To learn more about glass quality, download our free white paper at:

www.agilent.com/chem/vialsresources



Agilent 7693A ALS Vials tray.

#### Don't have an Agilent instrument? No problem

Agilent vials perform seamlessly with a variety of analytical instruments. Use the table on the next page to determine which Agilent vials are compatible with your instrument manufacturer and model.

Did you know: 2 mL high-recovery screw-top vials can be used with all autosamplers.

# From instruments to columns and supplies, find everything you need from one trusted supplier

#### Better injections, better chromatography

No matter what your sample introduction needs may be, Agilent has a sampler to support your lab's productivity.

Learn more:

Agilent GC Autosamplers: www.agilent.com/chem/GCsampleintro
Agilent LC Autosamplers: www.agilent.com/chem/lc-injection-systems



Agilent vials are suitable for all major instrument brands

#### Make productivity happen—regardless of application or instrument vendor

Improve cycle time, eliminate variability, and enhance your results at every step of your workflow.

Learn more:

GC, GC/MS, or GC Headspace: www.agilent.com/chem/productivityGC

Inert GC flow path supplies: www.agilent.com/chem/inert LC and LC/MS: www.agilent.com/chem/productivityLC Spectroscopy: www.agilent.com/chem/productivityspectro



From Insight to Outcome

The right vial is just a few clicks away.

Use our online selection tool at www.agilent.com/chem/selectvials

#### **Agilent Vial Compatibility**

Manufacturer	Autosampler	8 mm Screw Top	9 mm Screw Top	15 x 45 mm, 4 mL	11 mm Crimp Top	Headspace
Waters	717 Plus				<b>*</b>	
	Acquity	<b>*</b>	<b>*</b>		<b>*</b>	
	Alliance 2690	•	•			
	CapLC	<b>*</b>	•		<b>*</b>	
	WISP			<b>*</b>		
Shimadzu	A0C14/1400	<b>*</b>	•		<b>*</b>	
	A0C-20		•	<b>*</b>	<b>*</b>	
	AOC 88/9	•	•		<b>*</b>	
	A0C-5000	<b>*</b>	•		<b>*</b>	Magnetic
	HSS-2B/4B					<b>*</b>
	LC 2010	•	<b>*</b>		<b>*</b>	
	SIL-6A/6B/9A	With flange				
	SIL-10A, SIL-10Ai, SIL-10AxL	•	•			
	SIL-HT/10ADVP	<b>*</b>	•		<b>*</b>	
Thermo Scientific/Dionex	A-200S/AS 150/800/8000	<b>*</b>	•		<b>*</b>	,
	AS 3000/TRACE GC		•		<b>*</b>	,
	ASI-100	•	<b>*</b>		<b>*</b>	
	SURVEYOR LC	•	•		<b>*</b>	
	TriPlus		•		<b>*</b>	
	WPS-3000RS	•	•		•	
	WPS-3000SL	•	•		•	
Bruker, Varian*	8034/8035/8100/8200	•	•		•	
	9095/9100	•	•		•	
	CP-8410		•	•	•	
	Genesis				,	•
PerkinElmer	Autosystem GC/XL/AS-2000	•	•	•	•	
	Clarus 500/600		•		•	
	HS16/40					•
	Integral 4000	•	•		•	
	ISS-100/200	•	•		•	
	LC 600 42 vial tray	·	•		<u> </u>	
	LC Plus	<b></b>	• • • • • • • • • • • • • • • • • • •	•		
	TurboMatrix 40/110	•	•	•		•
CTC Analytics	CombiPal		•	•	•	Magnetic

<sup>\*</sup>Formerly Varian systems, now Bruker products

The right vial is just a few clicks away. Use our online selection tool at www.agilent.com/chem/selectvials





Agilent CrossLab, the world leader in innovative laboratory services, software, and consumables, provides a direct connection to a global team of experts who deliver vital, actionable insights at every level of the lab environment. Our insights drive improved economic, operational, and scientific outcomes. Agilent CrossLab. From insight to outcome.

www.agilent.com/crosslab

#### From athletic drug testing to ice core analysis... real-life problems, solved

# Active Pharmaceutical Ingredients (APIs) manufacturing company

**Problem:** The customer was experiencing retention time shifting, high RSD, peak tailing, poor resolution, and asymmetric peaks.

**Diagnosis:** Excessive void volume.

**Solution:** Use Agilent vials, tubing, ferrules and filters. We showed the customer how to tighten vials securely, demonstrated proper tube-cutting techniques, and recommended the use of standard tubing to prevent void volume.

Outcome: Increased productivity and cost savings.

#### **High-volume environmental contract lab**

**Problem:** Instruments were not completing overnight sample runs—costing the lab \$25K in missed deadlines and penalties.

**Diagnosis:** The purchasing department changed the cap supplier without notifying the lab—resulting in septa sticking and autosampler needle failure.

Solution: Go back to using Agilent caps and septa.

Outcome: No more problems with septa sticking or needle failure.

#### **Small-molecule pharmaceutical company**

**Problem:** Reduced analyte response caused a two-week delay, costing the company \$100K, and damaging their reputation.

**Diagnosis:** Poor-quality vials made with glass expansion 70/71, which has a high metal content that can remove compounds from the matrix.

**Solution:** Switch to Agilent vials and caps, which use only analytical grades 33 and 51 glass.

**Outcome:** Improved productivity and more consistent performance.

#### **Environmental lab**

**Problem:** The customer was unable to complete a critical study, because they didn't trust their results. Vial contamination was suspected

**Diagnosis:** The vials were contaminant-free, but the customer's method needed modification.

**Solution:** Implement a new Agilent-suggested workflow.

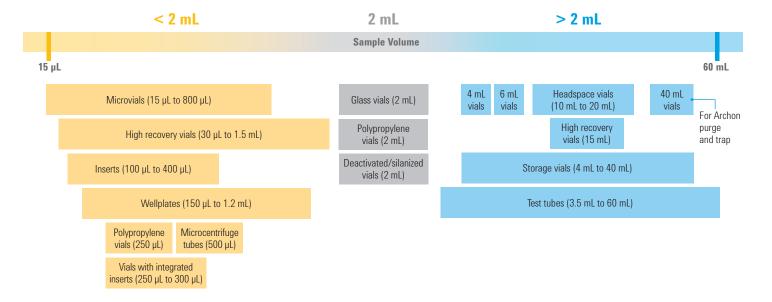
**Outcome:** Customer saved \$50K in troubleshooting costs—and completed their study with reliable results.

Best of all... the troubleshooting and technical support described here were all performed free of charge.

By matching our vial to your application, you can contain samples with minimal interference from the surrounding environment, and ensure optimal sample interface with your analytical platform. To help you get started, we've answered the most common questions about vial selection below.

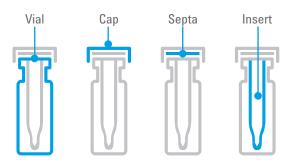
#### Which vial is best for my sample size?

There are several factors to consider, including analysis type, analytical platform, and sample availability. Agilent vials offer the same highly consistent performance across the entire size range, from 15  $\mu$ L up to 60 mL. Use the diagram below as a starting point for choosing the size you need based on your sample volume.



#### How do vial components factor in?

Vial caps, septum, and inserts prevent leakage and sample loss due to evaporation. Like Agilent vials, Agilent vial components receive the same high level of attention during design and manufacture. They also work seamlessly with Agilent vials so complex runs proceed smoothly.



#### How do I choose the right closure?

There are three major factors to consider when selecting a closure.

#### 1. Compatibility of septa and sample

Make sure the septa you choose are chemically compatible with your sample and solvent. Chemical compatibility can vary, based on factors such as solvent concentration, molecular weight, and temperature.

During manufacture, Agilent septa undergo thermal and chemical conditioning to reduce siloxane bleed, which can occur when the septa material is stressed during heating, solvent interaction, or piercing by the autosampler needle.

#### **Septa Chemical Compatibility**

	PTFE	PTFE/Silicone	PTFE/Silicone/PTFE*	PTFE/Red Rubber	Fluoroelastomer	PTFE/Butyl
Acetonitrile	<b>*</b>	•	•	<b>*</b>		•
Hydrocarbons (hexane, heptane, methane)	•		<b>*</b>	<b>*</b>	<b>*</b>	
Methanol	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>		<b>*</b>
Benzene	<b>*</b>		<b>*</b>		<b>*</b>	
THF	<b>*</b>		<b>*</b>			
Toluene	<b>*</b>		<b>*</b>			
DMF	<b>*</b>	<b>*</b>	<b>*</b>			<b>*</b>
DMS0	•	<b>*</b>	<b>*</b>			•
Ether	<b>*</b>	<b>*</b>	<b>*</b>			
Chlorinated Solvents (methylene chloride)	<b>*</b>		<b>*</b>		<b>*</b>	
Alcohols (ethanol)	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>	<b>*</b>
Acetic Acid	•	<b>*</b>	<b>*</b>			<b>*</b>
Acetone	<b>*</b>	<b>*</b>	<b>*</b>			
Phenol	•	<b>*</b>	<b>*</b>		<b>*</b>	•
Cyclohexane	<b>*</b>		<b>*</b>	<b>*</b>	<b>*</b>	

 $<sup>^*</sup>$ PTFE/silicone/ PTFE has the same chemical compatibility of PTFE ONLY UNTIL PUNCTURED.



#### **Tips & Tools:**

For highly sensitive samples, we recommend PTFE-lined ("sandwiched") septa, because the PTFE layers act as a chemically resistant barrier.



#### 2. Compatibility of septa and cap

Use the chart below to determine the right cap and septa combination, based on your application. Note: septa that are too thick can prevent the cap from fitting properly on the vial.

If siloxane interference is a concern for your application, we recommend Agilent Certified caps and Agilent Certified bonded caps. They provide the industry's lowest bleed profile for better analytical sensitivity, reduced downtime, and improved productivity.

#### **Cap and Septa Compatibility**

	High Performance Septa	Thin PTFE	PTFE/Silicone*	PTFE/Silicone/ PTFE*	PTFE/Red Rubber	Fluoroelastomer	Butyl
Temperature range	40 to 300 °C**	Up to 260 °C	-40 °C to 200 °C	-40 °C to 200 °C	-40 °C to 90 °C	-40 °C to 260 °C	-50 °C to 150 °C
Use for multiple injections	No	No	Yes	Yes	No	No	No
Price	Most expensive	Very economical	Economical	Most expensive	Very economical	Economical	Economical
Resistance to coring	Excellent	None	Excellent	Excellent	None	None	None
Recommended for storage	No	No	Yes	Yes	No	No	No
Best for	High temperature headspace applications	Superior chemical inertness, short cycle times, and single injections	Most common HPLC and GC analyses, not as resistant to coring as P/S/P	Superior performance for ultra analysis, repeat injections, internal standards	Chlorosilanes more economical option for single injections	Chlorinated solvents, higher temperatures	Organic solvents, acetic acids; impermeable to gasses

<sup>\*</sup>Agilent silicone is peroxide cured, making it more inert and less likely to interact with samples

#### 3. Crimp cap vs. screw cap

Based on our decades of chromatography experience, crimp-cap vials tend to be best for GC and GC/MS applications, while screw-cap vials are generally used for LC and LC/MS applications. However, your specific application—as well as your personal preference—are also factors to consider.

Although both types of caps deliver a good seal, crimp caps provide additional security for food, forensics, and other applications for which you want to avoid sample tampering. We also recommend a crimp-cap vial if you are working with volatile compounds.



<sup>\*\*</sup> For up to one hour

#### What about more specialized applications?

#### **Deactivated vials**

For pesticides, semivolatiles, and other highly sensitive samples—as well as samples that are prone to sudden pH shifts—deactivated vials are best, because their surface is more hydrophobic and inert. We also recommend deactivated vials for exacting applications, such as mass spectrometry, to prevent sample interactions prior to analysis.

#### Polypropylene vials

Polypropylene vials are an excellent choice for biological applications, and for applications involving samples with high metal content—such as ion chromatography, AA, or ICP-MS.

Agilent thoroughly tested and evaluated a variety of polypropylene materials prior to selecting the grade used in our polypropylene vials. So you can rest assured that our vials have the lowest levels of extractables to ensure sample integrity.







#### **Hundreds of choices... one easy guide**

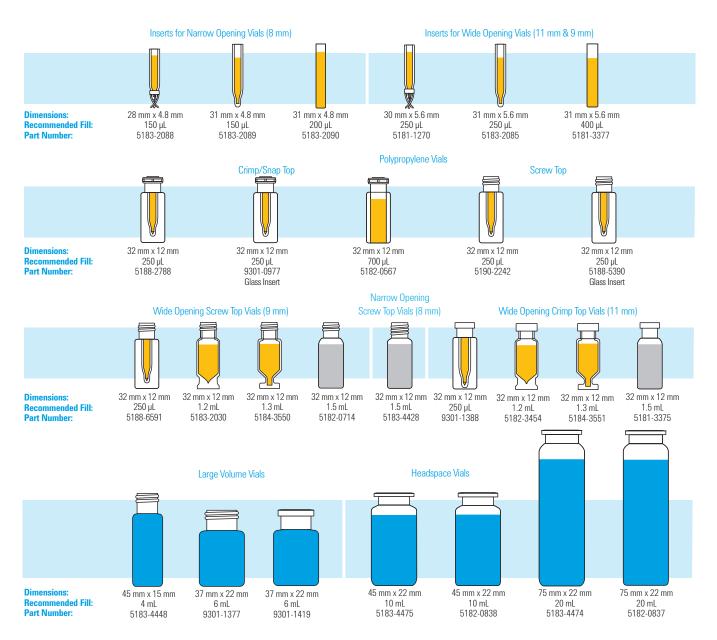
Use our online selection tool to quickly find the right products for complete confidence in your sample containment.

- Answer a few simple questions to identify your best options
- · Search by technique, product number, or vial type
- Make a perfect pick from more than 600 vials, caps, and septa

Go to www.agilent.com/chem/selectvials

# ORDERING INFORMATION FIND THE RIGHT PRODUCTS FOR COMPLETE CONFIDENCE IN YOUR SAMPLE CONTAINMENT

Agilent vials, caps, and septa have been engineered and designed with the same superior quality we build into Agilent instruments. When you put our 40 years of innovation and excellence into your vials and caps, you can have complete confidence in your results.



This is a selection of vials, not the entire portfolio.

The tables that follow are conveniently arranged by vial size for easy selection. You can also use our online selection tool at **www.agilent.com/chem/selectvials** 

### **Containment Solutions for Sample Volumes <2 mL**

#### Vials

Description	Sample volume	Material	Certified	Unit	Part No.
Microvials					
WineGlass shape, 12 x 32 screw top	15 μL	Glass, clear		100/pk	5184-3550
	15 μL	Glass, amber		100/pk	5184-3554
WineGlass shape, 12 x 32 crimp top	15 μL	Glass, clear		100/pk	5184-355
	15 μL	Glass, amber		100/pk	5184-3555
Crimp top, tapered, 6 mm	100 μL	Glass, clear		500/pk	5180-0844
Crimp top, round bottom, 6 mm, for HTS and HTC PAL liquid injection	300 µL	Glass, clear		500/pk	5180-0841
Crimp/snap top	700 μL	Polypropylene		100/pk	5182-0567
Crimp top, flat bottom	800 μL	Glass, amber		1,000/pk	5183-4487
High recovery vials					
Crimp top	1.5 mL with 30 μL reservoir	Glass, clear		100/pk	5182-3454
	1.5 mL with 30 μL reservoir	Glass, clear (silanized)		100/pk	5183-4497
Screw top	1.5 mL with 30 μL reservoir	Glass, clear		100/pk	5183-2030
	1.5 mL with 30 μL reservoir	Glass, amber		100/pk	5183-2073
Microcentrifuge					
Microcentrifuge tubes	500 μL			100/pk	9301-6384
Polypropylene Vials					
Crimp/snap top	250 μL	Polypropylene	Υ	100/pk	5188-2788
	250 μL	Polypropylene		1,000/pk	5190-3155
Screw top	250 μL	Polypropylene	Υ	100/pk	5190-2242
	250 μL	Polypropylene Y		1,000/pk	5190-2243
Vials with Integrated Inserts					
Screw top, with glass insert	250 μL	Polypropylene		100/pk	5188-5390
Crimp/snap top, with glass insert	250 μL	Polypropylene		100/pk	9301-0977
	250 μL	Polypropylene		100/pk	9301-0978
Screw top, with fixed insert	300 μL	Glass, clear		100/pk	5188-659
Crimp top, with fixed insert	300 μL	Glass, clear		100/pk	9301-1388
Screw top, with fixed insert	300 μL	Glass, amber		100/pk	5188-6592
Crimp top, with fixed insert	300 μL	Glass, amber		100/pk	5188-6572





5182-0567

5182-3454

#### Inserts

Description	Sample volume	Material	Certified	Unit	Part No.
Vial insert	100 μL		Υ	500/pk	9301-1387
Vial insert, for 2 mL standard opening (8 mm) screw top vials	150 μL	Glass with polymer feet		100/pk	5183-2088
Vial insert, 200 µL measured fill (150 µL recommended), for 2 mL standard opening (8 mm) screw top vials	150 μL	Pulled point glass		100/pk	5183-2089
Vial insert, flat bottom, for 2 mL standard opening (8 mm) screw top vials	200 μL	Glass		100/pk	5183-2090
Vial insert, with graduations	250 μL	Polypropylene		100/pk	5190-4073
Vial insert	250 μL	Glass with polymer feet	Υ	100/pk	5181-1270
Vial insert	250 μL	Deactivated glass with polymer feet	Υ	100/pk	5181-8872
Vial insert, graduated to 300 $\mu L$ in increments of 100 $\mu L$ . Do not fill to more than 250 $\mu L$	250 μL	Polypropylene with polymer feet	Υ	100/pk	5182-0549
Vial insert	250 μL	Pulled point glass	Υ	100/pk	5183-2085
Vial insert, conical	250 μL	Polymer feet	Υ	25,000/pk	5185-5958
Vial insert, flat bottom	250 μL	Glass	Υ	50,000/pk	5067-0212
Vial insert	350 μL	Glass		1,000/pk	5188-5321
Vial insert, flat bottom	400 μL	Glass	Υ	500/pk	5181-3377
Vial insert, flat bottom	400 μL	Deactivated glass	Υ	500/pk	5183-2086
Vial insert, flat bottom	400 μL	Polypropylene	Υ	500/pk	5183-2087
Cap for 350 μL glass insert				1,000/pk	5188-5322







5183-2085



5181-3377

#### **Well Plates and Closing Mats**

Description	Sample volume	Material	Certified	Unit	Part No.
384-well plate	90 μL	Polypropylene		30/pk	5042-1388
96-well plate, skirted	150 μL			25/pk	5042-8502
96-well plate with glass inserts, caps, septa preassembled	350 μL			1/pk	5065-4402
96-well plate	500 μL	Polypropylene		120/pk	5042-1385
96-well plate	500 μL	Polypropylene		10/pk	5042-1386
96 deep-well plate	1 mL	Polypropylene		50/pk	5042-6454
96 deep-well plate and microplate, round well, 1.0 mL working volume	1.2 mL			10/pk	SN400042
Insert and cap/septa kit for deep-well collection plates. Includes 350 µL inserts and caps/septa. Ideal for refilling kit 5065-4402.			Υ	1,000/pk	5190-2237
Closing mat, Micro Mat, square, for 96-well plate				10/pk	SN800220
Closing mat for 96-well plate		Silicone		50/pk	5042-1389





#### Tips & Tools:

You can also use our Vial Selection Tool to search by instrument manufacturer.

Visit www.agilent.com/chem/selectvials

# **Containment Solutions for Sample Volumes of 2 mL**

#### Vials

	Description	Certified	100/pk	1,000/pk	10,000/pk	50,000/pk	100,000/pk
	Crimp Top						
	Clear	Υ	5181-3375	5183-4491			5185-5852
NEW	A-Line clear with write-on spot	Υ	5190-9591				
	Clear with write-on spot	Υ	5182-0543	5183-4492			
	Clear, wide	Υ			5190-6116	5190-6123	
	Clear, wide, with write-on spot	Υ			5190-6117	5190-6124	
NEW	A-Line amber with write-on spot	Υ	5190-9592				
	Amber with write-on spot	Υ	5181-3376	5183-4493	5190-6113		
	Crimp/Snap Top Polypropylene for CE						
	Clear	-	5182-9697				
	Amber with write-on spot		5183-4619				
	Screw Top						
	Clear, 8-425		5183-4428				
	Clear	Υ	5182-0714	5183-2067			5185-5918
NEW	A-Line clear with write-on spot	Υ	5190-9589				
	Clear with write-on spot	Υ	5182-0715	5183-2068		5190-6126	
	Clear with write-on spot, 8 mm		8010-0010				
	Amber, 8-425		5183-4429				
	Amber	Υ	5188-6535	5188-6536	5190-6114	5190-6121	
NEW	A-Line amber with write-on spot	Υ	5190-9590				
	Amber with write-on spot	Υ	5182-0716	5183-2069	5190-6115	5190-6122	
	Amber with write-on spot, 8 mm		8010-0012				
	Deactivated (Silanized)						
	Crimp Top						
	Clear	Υ	5183-4494				
	Clear with write-on spot	Υ	5183-4495				
	Amber with write-on spot	Υ	5183-4496				
	Screw Top						
	Clear	Υ	5183-2070				
	Clear, 8-425		5183-4432				
	Clear with write-on spot	Υ	5183-2071				
	Amber, 8-425		5183-4433				
	Amber with write-on spot	Υ	5183-2072				







5183-2067

5182-0716

# Caps and Septa for <2 mL and 2 mL Vials

#### Septa

Description	Certified	100/pk	500/pk
PTFE/white silicone, pre-slit	Υ	5183-2074	
PTFE/red silicone, for screw top caps	Υ	5182-0731	
PTFE/white silicone, for screw top caps	Υ	5182-0730	
PTFE/white silicone/red PTFE, for screw top caps	Y	5182-0729	
Red PTFE/white silicone/red PTFE, for 8-425 vials		5183-4436	
Red PTFE/white silicone, for 8-425 vials		5183-4437	
PTFE-coated butyl rubber, for 8-425 vials			9301-1130

#### **Crimp Caps**

Cap Color	Septa Type	Certified	25/pk	100/pk	500/pk	1,000/pk	5,000/pk	10,000/pk	100,000/pk
11 mm Crimp Caps									
Blue aluminum	Red PTFE/rubber			5181-1215					
Blue aluminum	Clear/red PTFE/silicone			5190-9045					
Blue aluminum	PTFE/silicone/PTFE	Υ				5190-4074			
Gold aluminum	Clear/red PTFE/silicone			5190-9052					
Gold steel, magnetic	White silicone/PTFE			5188-5386					
Green aluminum	Red PTFE/rubber			5181-1216					
Green aluminum	Clear/red silicone/PTFE			5190-9046					
Green aluminum	PTFE/silicone/PTFE	Υ				5190-6096			
Red aluminum	Red PTFE/rubber			5181-1217					
Red aluminum	Clear/red silicone/PTFE			5190-9047					
Red aluminum	PTFE/silicone/PTFE	Υ				5190-4075			
Silver aluminum	Black fluorocarbon	Υ		5181-1212					
Silver aluminum	PTFE/ butyl			8010-0051					
Silver aluminum	Red PTFE/rubber			5181-1210	5061-3370	5183-4498	5190-4053		5185-5851
Silver aluminum	Red PTFE/silicone			5190-9044					
Silver aluminum	PTFE/silicone	Υ		5182-0552*		5183-4500			
Silver aluminum	PTFE/silicone						5190-4052	5190-3186	
Silver aluminum	PTFE/silicone/PTFE	Υ		5181-1211		5183-4499			
Silver aluminum	PTFE/silicone/PTFE						5190-4051		
Silver aluminum	Thin membrane	Y	5190-6169	5182-0871					
8 mm Crimp Caps									
Silver aluminum	PTFE/silicone/PTFE				5180-0842				

<sup>\*</sup> Best option for A-Line vials





5181-1212

#### **Screw Caps**

Cap Description	Septa Type	Certified	100/pk	250/pk	500/pk	1,000/pk	5,000/pk	50,000/pk
Black, 11 mm, 8-425	Red PTFE/white silicone		5183-4442					
Black, 11 mm, 8-425	No septa		5183-4438					
Black, 11 mm	PTFE/red silicone	Υ	5185-5838					
Blue, 11 mm, bonded	Pre-slit PTFE/silicone		5185-5824		5040-4649			
Blue, 11 mm, bonded	PTFE/silicone		5185-5823					
Blue, 11 mm, bonded	PTFE/white silicone	Υ	5190-7021*			,		
Blue, 11 mm, bonded	Pre-slit PTFE/white silicone	Υ	5190-7023*†					
Blue, 11 mm, bonded	PFTE/red silicone	Υ	5190-7024					-
Blue, 11 mm	Pre-slit PTFE/silicone	Υ	5183-2076		5185-5865			
Blue, 11 mm	PTFE-lined solid top	Υ	5183-2075					-
Blue, 11 mm	PTFE/red rubber	Υ						5185-5917
Blue, 11 mm	PTFE/red silicone	Υ	5182-0717		5185-5820	5190-1599		
Blue, 11 mm	PTFE/red silicone						5190-4049	
Blue, 11 mm	PTFE/white silicone	Υ	5182-0720					
Blue, 11 mm	PTFE/white silicone						5190-4050	
Blue, 11 mm	PTFE/silicone		5190-3156					
Blue, 11 mm	PTFE/silicone/PTFE	Υ	5182-0723		5185-5862			-
Blue, 8 mm	PTFE/silicone/PTFE		8010-0063					
Blue	PTFE/white silicone	Υ			5185-5863			
Blue, open top	No septa	Υ	5182-0728					
Green, bonded	PTFE/red silicone	Υ	5190-7025					
Green, bonded	PTFE/white silicone	Υ	5190-7026					
Green, bonded	Pre-slit PTFE/red silicone	Υ	5190-7028					
Green	Pre-slit PTFE/silicone	Υ	5183-2077					
Green	PTFE/red silicone	Υ	5182-0718		5185-5829			
Green	PTFE/white silicone	Υ	5182-0721	5040-4682	5185-5864			
Green	PTFE/silicone/PTFE	Υ	5182-0724	-	5185-5861			
Green, open top	No septa	Υ	5182-0727					
Purple	PTFE/silicone	Υ	5040-4681					
Red, bonded	PTFE/red silicone	Υ	5190-7029				1	
Red, bonded	PTFE/white silicone	Υ	5190-7030			,		
Red, bonded	Pre-slit PTFE/red silicone	Υ	5190-7032			,	,	
Red, 9 mm	PTFE/white silicone/PTFE					8010-0188		
Red, 8 mm	PTFE/silicone/PTFE		8010-0068					
Red, 8 mm	Pre-slit PTFE/silicone		8010-0142					
Red	Pre-slit PTFE/silicone	Υ	5183-2078					
Red	PTFE/red silicone	Y	5182-0719					
Red	PTFE/white silicone	Y	5182-0722					
Red	PTFE/silicone/PTFE	<u>.</u> Ү	5182-0725					
Red, open top	No septa	Ү	5182-0726					
Orange, 9 mm	PTFE/silicone	•				8010-0186		
Orange, 9 mm	PTFE/silicone/PTFE					8010-0187		
Silver aluminum, 11 mm	Pre-slit PTFE/silicone		8010-0582			30.000107		
Turquoise	PTFE/silicone		5040-4683					
* Post ention for A Line viole	2, 0,1100,110							

<sup>\*</sup> Best option for A-Line vials





 $<sup>^{\</sup>dagger}$  Recommended for high volume injections

#### 2 mL Autosampler Vial Convenience Packs

Convenience packs are an easy way to get 500 of each component using one part number. Packed in our six-drawer, reusable blue plastic cabinet, 500 vials and caps with septa installed are kept handy and dust-free.

Description	Septa Type	Cap Color	Certified	500/pk
Crimp Top				
Clear	PTFE/red rubber	Silver		5181-3400
Clear with write-on spot	PTFE/red rubber	Silver	Υ	5190-2241
Amber	PTFE/red rubber	Silver		5181-8801
Screw Top				
Clear, bonded	Pre-slit PTFE/silicone	Blue	Υ	5067-0205
Clear	Pre-slit PTFE/silicone	Blue	Υ	5183-2079
Clear	PTFE/red rubber	Blue	Υ	5182-0732
Clear	PTFE/silicone	Blue	Υ	5182-0734
Clear	PTFE/silicone/PTFE	Blue	Υ	5182-0736
Clear with write-on spot	Pre-slit PTFE/silicone	Blue	Υ	5183-2080
Clear with write-on spot	PTFE/red rubber	Blue	Υ	5182-0867
Clear with write-on spot	PTFE/silicone	Blue	Υ	5182-0868
Clear with write-on spot	PTFE/silicone/PTFE	Blue	Υ	5182-0869
Amber with write-on spot	Pre-slit PTFE/silicone	Green	Υ	5183-2081
Amber with write-on spot	PTFE/red rubber	Green	Υ	5182-0733
Amber with write-on spot	PTFE/silicone	Green	Υ	5182-0735
Amber with write-on spot	PTFE/silicone/PTFE	Green	Υ	5182-0737

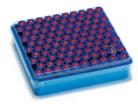
#### Pre-assembled Screw Top 2 mL Vial Packs

Pre-assembled packs come ready-to-use with the cap and septum of your choice attached to the vial. A time- and labor-saving product for use with your Agilent autosampler or any rotating tray automatic sampler.

Description	Septa Type	Cap Color	Certified	100/pk
Clear	Pre-slit PTFE/silicone	Blue	Υ	5183-2082
Clear	PTFE/red silicone	Blue	Υ	5182-0553
Clear	PTFE/silicone/PTFE	Blue	Υ	5182-0555
Clear	PTFE/silicone	Blue	Υ	5182-0557
Clear with write-on spot	Pre-slit PTFE/silicone	Blue	Υ	5183-2083
Clear with write-on spot	PTFE/red rubber	Blue	Υ	5182-0864
Clear with write-on spot	PTFE/silicone	Blue	Υ	5182-0865
Clear with write-on spot	PTFE/silicone/PTFE	Blue	Υ	5182-0866
Amber	PTFE/silicone	Green	Υ	5182-0558
Amber	PTFE/silicone/PTFE	Green	Y	5182-0556
Amber with write-on spot	PTFE/red rubber	Green	Υ	5182-0554



Autosampler vial convenience pack



Pre-assembled screw top vial pack

#### 2 mL Vial Kits

2 mL Vial kits are packs of vials with caps. These kits are not pre-assembled and do not come in storage drawers like the convenience pack.

Vial Description	Septa Type	Cap Color	Certified	100/pk	10,000/pk	50,000/pk	100,000/pk
Crimp Top							
Clear	PTFE/silicone	Silver		8010-0195			
Clear glass vial bundle	PTFE/red rubber	Silver	Υ			5185-5946	
Amber	PTFE/silicone	Silver		8010-0196			
Amber	PTFE/red rubber	Silver	Υ			5067-0214	
Screw Top							
Clear	PTFE/red silicone	Blue	Υ				5067-0237
Clear glass vial bundle	PTFE/silicone	Blue	Υ			5185-5950	
Clear			Υ		5190-6118	5190-6125	
Clear with write-on spot			Υ		5190-6119		
Clear	PTFE/silicone septa	Orange		8010-0198			
Clear glass vial and cap pack	Pre-slit PTFE/silicone	Red		8010-0425			
Clear glass vial and cap pack	PTFE/butyl	Black		8010-0426			
Clear glass vial and cap pack, standard opening (8 mm)	PTFE/silicone	Black		8010-0414			
Clear glass with write-on spot, (9 mm). Similar to Waters 186000307C, National Scientific C4000-95W, Chromacol MEL, and La-Pha-Pack 11 23 1051	Pre-slit PTFE/silicone	Orange		8010-0542			
Clear glass 8-425	PTFE-lined solid storage			5183-4518			
Amber	PTFE/silicone septa	Orange		8010-0199			
Amber with write-on spot, 9 mm	Pre-slit PTFE/silicone	Orange		8010-0543			
Amber glass vial and cap pack, standard opening (8 mm)	PTFE/silicone	Black		8010-0415	,		







# **Containment Solutions for Sample Volumes >2 mL**

#### 4 mL Screw Top Vials

Description	Size	Unit	Part No.
Clear	15 x 45 mm	100/pk	5183-4448
Clear with write-on spot	15 x 45 mm	100/pk	5067-0246
Amber	15 x 45 mm	100/pk	5183-4450
Amber with write-on spot	15 x 45 mm	100/pk	5067-0247

#### Screw Caps for 4 mL Vials

Description	Material	Unit	Part No.
Black	PTFE/silicone septa	100/pk	5183-4464
Black	No septa	100/pk	5183-4461

#### 4 mL Vial Kits

Vial Type	Septa Type	Cap Size/Color	Unit	Part No.
Clear glass Similar to Waters 186000838C, Dionex/Thermo 03-375-3G, National Scientific C4015-1	PTFE/silicone	13 mm, black	100/pk	8010-0553
Clear glass vials	No septa		144/pk	9301-0723
Amber glass vials Similar to Waters 186001133C, Dionex/Thermo 03-375-3P, National Scientific C4015-2	PTFE/silicone	13 mm, black	100/pk	8010-0554
Wash vials with fill markings	No septa		25/pk	5182-0551

#### Septa

Description	Unit	Part No.
Red PTFE/white silicone	100/pk	5183-4460
PTFE/natural rubber	144/pk	9301-1031
White virgin PTFE	1,000/pk	5183-4459

#### LC Vials, Caps and Septa

Description	Certified	100/pk
Vial, screw top, clear glass, flat bottom, 6 mL	Υ	9301-1377
Vial, crimp top, clear glass, flat bottom, 6 mL		9301-1419
Cap, screw, with pre-slit PTFE/silicone septa, 16 mm		8010-0102
Cap, screw, PTFE/silicone septa, 16 mm		8010-0101
Septa, pre-slit PTFE/silicone, 16 mm	Υ	5188-2758
Septa for 6 mL vials	Υ	9301-1378



#### >4-10 mL Caps and Septa

Description	Material	Unit	Part No.
Screw cap for 6 mL vials		100/pk	9301-1379
Screw cap, 22 mm, black	No septa	100/pk	8010-0565
Snap caps and seals for 10 mL wash vials		10/pk	G6500-88027
Septa, 22 mm	PTFE/silicone	100/pk	8010-0564

#### Seals

Description	Unit	Part No.
Seals for wash and waste vials, 10/20/100 mL	20/pk	MLAL1000023

#### **Headspace Vials**

Description	Size	Certified	Unit	Flat Bottom	Round Bottom
Crimp Top, Glass					
Clear	10 mL, 23 x 46 mm	Υ	100/pk	5182-0838	5183-4475
			100/pk		5190-6147
		Υ	1,000/pk	8010-0179	
Clear with graduation marks and write-on spot	10 mL, 23 x 46 mm		100/pk	5190-2285	
Clear	20 mL, 23 x 75 mm	Υ	100/pk	5182-0837	5183-4474
	20 mL, 23 x 75 mm	Υ	10,000/pk	5185-5957	5067-0235
Clear with graduation marks and write-on spot	20 mL, 23 x 75 mm		100/pk	5190-2288	
Clear	22 mL		100/pk		8010-0152
Amber	10 mL, 23 x 46 mm	Υ	100/pk	5067-0227	5190-2238
Amber with graduation marks and write-on spot	10 mL, 23 x 46 mm		100/pk	5190-2287	
Amber	20 mL, 23 x 75 mm	Υ	100/pk	5067-0226	5190-2239
Amber with graduation marks and write-on spot	20 mL, 23 x 75 mm		100/pk	5190-2286	
Screw Top, Glass					
Clear	10 mL, 23 x 46 mm		100/pk		5188-5392
Clear	20 mL, 23 x 75 mm		100/pk		5188-2753
	20 mL, 23 x 75 mm		1,000/pk	8010-0180	
Amber	10 mL, 23 x 46 mm		100/pk		5188-6538
Amber	20 mL, 23 x 75 mm		100/pk		5188-6537



#### Agilent 7697A Headspace Sampler

Ensure an inert sample pathway for superior GC performance without analyte degradation or loss. Go to: www.agilent.com/chem/7697A

#### **Headspace Caps**

Description	Size	Septa Type	Certified	100/pk	1,000/pk	10,000/pk
Crimp Caps						
Silver aluminum	20 mm	Molded PTFE/butyl	Υ			5190-2258
	20 mm	PTFE/silicone	Υ	5183-4477		5190-2257
	20 mm	PTFE/silicone		9301-1425		
	20 mm	Tan PTFE/white silicone			8010-0191	
	20 mm	No septa		9301-0721		
Silver aluminum with safety feature	20 mm	Molded PTFE/butyl	Υ	5183-4479		
	20 mm	Molded PTFE/butyl		5183-4480		
	20 mm	PTFE/silicone	Υ	5183-4478		5067-0236
	20 mm	No septa		9301-0718		
Bimetal, magnetic	20 mm	PTFE/silicone		8010-0420		
Steel, magnetic	20 mm	Tan PTFE/silicone		8010-0165		
	20 mm	Silicone/PTFE		8010-0424		
	20 mm	High temperature septa	Υ	5190-3987		
	18 mm	PTFE/butyl septa		8010-0140		
Screw Caps						
Steel, magnetic	18 mm	PTFE/silicone (white top, blue bottom)		5188-2759		
	18 mm	High temperature septa		5190-3986		

#### **Headspace Septa and Stoppers**

Description	Septa Type	Certified	100/pk	1,000/pk	10,000/pk
Septa					
18 mm	Blue PTFE/silicone			8010-0418	
20 mm	Tan PTFE/white silicone		9301-0719	8010-0192	
20 mm	Tan PTFE/white silicone	Υ			5067-0234
20 mm	Red molded silicone/white PTFE		250-030-DAN		
20 mm	Gray molded PTFE/black butyl		9301-0976		
Stoppers					
Gray butyl stopper, 20mm, -40/120 °C		Υ	5183-4476		

#### **Headspace Kits**

Description	Septa Type	Cap Color/Type	Certified	100/pk
Crimp Top				
10 mL clear, flat bottom glass vials	PTFE/silicone	Silver		8010-0412
20 mL clear, flat bottom glass vials	PTFE/silicone	Silver		8010-0413
20 mL clear, flat bottom glass vials	PTFE/black butyl	Silver with safety feature	Υ	5182-0839
20 mL clear, flat bottom glass vials	Molded PTFE/silicone	Silver with safety feature	Υ	5182-0840
Screw Top				
20 mL clear, round bottom glass vials	PTFE/silicone	Silver magnetic		8010-0417

#### **LC High Recovery Vials**

Description	Size	Certified	30/pk
Screw top, clear glass	15 mL	Υ	5188-5369

#### Vials, Caps, and Septa for Archon purge and trap

Description	Size	Certified	24/pk	60/pk	72/pk	100/pk
Vial Kits						
Clear, precleaned vials, caps, and septa	40 mL				5183-4741	
Amber, precleaned vials, caps, and septa	40 mL				5183-4742	
Screw Caps						
Cap, screw	40 mL		5183-4744			
Cap, screw, red	40 mL	Υ				5190-6172
Septa						
Precleaned for 40 mL vials					5183-4743	
EPA low-bleed	22 mm			5190-3976		
PTFE/silicone	22 mm				5190-3978	

#### **Storage Vials**

Vial Size	Unit	Cap Size	Vial Type	Septa Type	Closed Top	Open Top
4 mL, 15 x 45	100/pk	13-425	Clear	PTFE/silicone	5183-4311	5183-4331
	100/pk	13-425	Amber	PTFE/silicone	5183-4321	
12 mL, 19 x 65	100/pk	15-425	Clear	PTFE/silicone	5183-4312	5183-4332
	100/pk	15-425	Amber	PTFE/silicone	5183-4322	
22 mL, 23 x 85	100/pk	20-400	Clear	PTFE/silicone	5183-4313	5183-4333
	100/pk	20-400	Amber	PTFE/silicone	5183-4323	
40 mL, 28 x 95	100/pk	24-414	Clear	PTFE/silicone	5183-4314	5183-4334
	100/pk	24-414	Amber	PTFE/silicone	5183-4324	
	100/pk	24-414	Amber			5190-4000



#### Less stress, more success: Agilent A-Line Supplies

- Award-winning Agilent Quick Connect fittings give you a perfect LC connection, every time
- Stay Safe caps with time strip increase safety and solvent bottle consistency
- Flex Bench rack makes instrument relocation and reconfiguration easy
- Quick turn fittings provide sure connections for hard-to-reach areas

Learn more: www.agilent.com/chem/aline

#### **Bonded Caps**

Cap Size	Unit	Cap Color	Cap Type	Septa Type	Closed Top	Open Top
13-425	100/pk	White	Polypropylene	PTFE/silicone	5183-4301	5183-4305
15-425	100/pk	White	Polypropylene	PTFE/silicone	5183-4302	5183-4306
20-400	100/pk	White	Polypropylene	PTFE/silicone	5183-4303	5183-4307
24-414	100/pk	White	Polypropylene	PTFE/silicone	5183-4304	5183-4308

#### **Test Tubes**

Description	Size	Certified	100/pk	250/pk
12 x 48 mm	3.5 mL		5022-6534	
16 x 48 mm	7 mL		5022-6533	
12 x 100 mm	8.5 mL			5022-6531
16 x 100 mm	20 mL			5022-6532
30 x 48 mm round bottom glass	20 mL	Υ	5042-6470	
25 x 100 mm round bottom glass	40 mL		5042-6459	
30 x 100 mm round bottom glass	60 mL		5042-6458	

#### Agilent 90-day warranty and money-back guarantee

All Agilent vials are designed and manufactured to stringent standards under the Agilent quality system registered to ISO 9001. If Agilent receives notice of defects during the warranty period, Agilent shall, at its option, either repair or replace products which prove to be defective. If Agilent is unable, within a reasonable time, to repair or replace any product to a condition as warranted, the buyer shall be entitled to a refund of the purchase price upon return of the product to Agilent. The warranty period for each product begins on the day of shipment.

This warranty shall not apply to any defect, failure, or damage caused by improper use or improper or inadequate maintenance or care. This warranty is exclusive and no other warranty, whether written or oral, is expressed or implied. Agilent specifically disclaims the implied warranties of merchantability and fitness for particular purposes. The remedies provided herein are the buyer's sole and exclusive remedies. In no event shall Agilent be liable for direct, indirect, special, incidental, or consequential damages (including loss of profits) whether based on contract, tort, or any other legal theory.

#### Replace your manual crimpers with the next stage in crimping technology

Agilent handheld electronic crimpers deliver tight, reproducible seals every time. Slim, adjustable steel jaws fit around closely spaced vials, enabling you to crimp vials directly in crowded autosampler trays. Handheld electronic decappers remove caps instantly, and are designed for labs that recycle or reuse vials.

Description		Part No.
Crimper		
	11 mm electronic crimper with lithium battery	5190-3188
	20 mm electronic crimper with lithium battery	5190-3189
Decapper		
	11 mm electronic decapper with lithium battery	5190-3190
	20 mm electronic decapper with lithium battery	5190-3191
Replacement lithium batter	ry for crimper and decapper	5190-3192

#### Cut your crimping time in half with Agilent high-power electronic crimpers

Electronic crimpers give you the power to crimp vials 50% faster than using a manual crimper. We recommend the high-power crimper if you are using steel caps.

Description	Cap size	Part No.
High-power electronic crimping tool with power supply		5190-4061
Base for electronic crimping tool		5190-4066
Crimper jaw set for high-power electric crimper	11 mm	5190-4062
Decapper jaw set for high-power electric crimp tool	11 mm	5190-4063
Crimper jaw set for high-power electric crimper	20 mm	5190-4064
Decapper jaw set for high-power electric crimper	20 mm	5190-4065
High-power crimping tool and jaw sets bundle	20 mm	5190-4067



# Stop wrist strain with ergonomic Agilent manual crimpers, for performance on a limited budget

With their lightweight, tailored design, Agilent manual crimpers and decappers help eliminate the problem of sore, pinched hands. Plus, they're built to last: the 11 mm crimper will complete at least 100,000 cappings, and the 20 mm crimper will complete at least 60,000 cappings.

	Description	Cap size	Part No.
-	Crimper		
1	Ergonomic manual crimper	11 mm	5040-4667
	Ergonomic manual crimper	20 mm	5040-4669
	Decapper		
	Ergonomic manual decapper	11 mm	5040-4668
	Ergonomic manual decapper	20 mm	5040-4671





#### Watch our

"Crimping a Vial Made Easy" video at www.agilent.com/chem/crimpingvideo



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Use our online selection tool to quickly find the right products for complete confidence in your sample containment.

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