

THE RIGHT CONSUMABLES  
**FOR YOUR**  
GC APPLICATIONS



**TurboMartix Headspace and Headspace Trap Samplers  
Consumables and Supplies Reference Guide**

# INTRODUCTION AND OVERVIEW

Headspace Gas Chromatography – for applications involving the solvent-free extraction of volatile compounds, is an unsurpassed technique, eliminating the time-consuming steps and risk of human error associated with other GC sample-preparation methods.

Engineered to deliver unparalleled precision, sensitivity and productivity in a broad range of applications, including forensics, food and beverage, pharmaceuticals and environmental, the TurboMatrix™ Headspace (HS) and Headspace Trap samplers provide unparalleled precision and ease of use making them the clear choice for laboratories seeking outstanding throughput and precision.



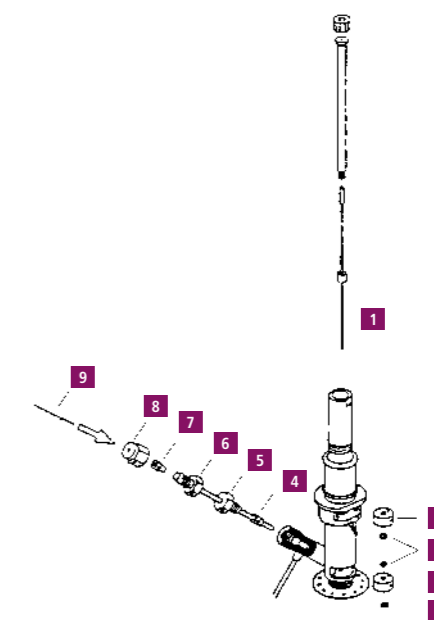
## Table of Contents

Sample Head Assembly Replacement parts	3
Solid Glass Blocking Trap	4
Sample Trays	4
Transfer Lines	4
Tools	4
Cold Trap Options	4
Vials, Caps, Septa	5
VOA Vials and Caps	11
Headspace	11
Ultra-low bleed septa	12
Electronic and Manual Crimpers	13
Advanced Filter system	14
Ultra-Clean Gas Filters	15

## Sample Head Assembly Replacement Parts

Description	Part No.
Platinum/Iridium Needle, Wide-Bore	B0144169
Platinum/Iridium Needle, Small-Bore	B0500959
Platinum/Iridium Needle, Jet	B0510364
<b>1</b> Silcosteel Needle	N6700130
Stainless Steel Needle, Wide-Bore	B0131385
Stainless Steel Needle, Small-Bore	B0500987
Stainless Steel Needle, Jet (ships with instrument)	B4000011
<b>2</b> Needle Seal Assembly (without O-Rings)	B0500833
<b>3</b> O-Ring for Needle Seal Assembly (pkg. 10)	B0198110
<b>4</b> Vespel Ferrule 1/16 in. (pkg. 10)	09920127
<b>5</b> Male Nut 1/16 in.	N9302832
<b>6</b> GLT Adapter Tube	B0503956
Headspace Trap Sample Head Adapter*	N6700113
<b>7</b> Graphite/Vespel Ferrule 1/16 in. x 0.4 mm For use with 0.25 mm ID Transfer Line, pkg. 10	09920104
Graphite/Vespel Ferrule 1/16 in. x 0.5 mm For use with 0.32 mm ID Transfer Line, pkg. 10	09920105
<b>8</b> Nut 1/16 in. Swagelok	N9300059
<b>9</b> Fused-Silica Capillary Transfer Line: 0.25 mm ID x 5 m length	N9301356
0.32 mm ID x 5 m length	N9301357

\* for HS Trap systems only



We offer a comprehensive range of consumables and GC columns, both capillary and packed. For more details simply visit our chromatography consumables catalogue at [www.perkinelmer.com/chromsupplies](http://www.perkinelmer.com/chromsupplies) or ask your local sales representative.

## Solid Glass Blocking Trap

Description	Part No.
Block for use in standard headspace mode.	<b>N6701170</b>

## Sample Trays

For use on the Mid-Range or High-Capacity headspace sampler.

Description	Part No.
TurboMatrix 40 Mid-Range Sample Tray	<b>M0413592</b>
TurboMatrix 110 High-Capacity Sample Tray	<b>M0413593</b>

## Transfer Lines



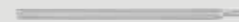
Description	Tubing ID	Length	Part No.
Siltek Deactivated Fused-Silica	0.25 mm	5 m	<b>N9316607</b>
Siltek Deactivated Fused-Silica	0.32 mm	5 m	<b>N9316608</b>

## Tools

Description	Part No.
O-Ring Removal Tool For replacing O-Rings in upper and lower seal assemblies	<b>B0147449</b>
Headspace Vial Gauge Used to check 20 mL headspace vials for correct dimensions	<b>B0151737</b>
Adapter Sleeve Torsion Bar For loosening upper seal	<b>B0135485</b>
Thumbscrew Removal Tool For removing lower seal assembly	<b>B0131410</b>
Spigot Key For loosening lower seal	<b>B0500843</b>
Open End Wrench, 1/4 – 5/16 in. For use in mounting the Transfer Line	<b>09907233</b>

## Miscellaneous Accessories

Description	Part No.
Gas Chromatography – Theory and Practice, Static Headspace Book by L. Ettre and B. Kolb	<b>N1011210</b>
TurboMatrix HS Standard Length Heated Transfer Line (960 mm) For operation up to 210 °C	<b>M0413643</b>
TurboMatrix Long Heated Transfer Line (1650 mm) For operation up to 210 °C	<b>M0413552</b>

Description	Tubing ID	Length	Part No.
Fused-Silica Capillary Transfer Line	0.25 mm	5 m	<b>N9301356</b>
Fused-Silica Capillary Transfer Line	0.32 mm	5 m	<b>N9301357</b>
Zero Dilution Inner Liner 			<b>N1011446</b>
To be used with zero dilution outer liner. This powerful combination allows you to achieve lower detection limits, sharpen peak shape, and increase throughput for many routine analyses			
Zero Dilution Capillary Injector Outer Liner 			<b>N1011445</b>
To be used with zero dilution inner liner. The powerful combination allows you to achieve lower detection limits, sharpen peak shape, and increase throughput for many routine analyses			
Zero Dilution PSS Injector Outer Liner 			<b>N1011447</b>

## Cold Trap Options

Headspace Trap instruments only.

Description	Part No.
TurboMatrix HS Trap Cold Trap Tube (Carbopack C)	<b>N6200150</b>
TurboMatrix HS Trap Air Monitoring Trap*	<b>M0413628</b>

\*Trap comes standard with the instrument

## Vials, Caps and Septa

Vials and closures are a critical part of your workflow; just as important as the instrument or column used. It is easy to think of a vial or cap as an inexpensive commodity that won't impact your results, but the reality is different. It's not only the physical attributes that can affect overall analytical performance, but also the quality of the glass and septa used. Contamination from sub-standard glass or poor quality septa can lead to interferences, inaccuracies and failures which ultimately effects lab productivity.

You can rely on PerkinElmer to consistently supply only the highest quality vials, caps and septa to ensure tat your analytical instruments continue to operate smoothly. All are tested to our stringent requirements and are compatible with both PerkinElmer instruments and other vendor systems. Choose from a range of glass or polypropylene vials and select your particular closure from a variety of options. Separate vials and caps can readily be purchased or select one of our kits for added convenience.

### Features and Benefits

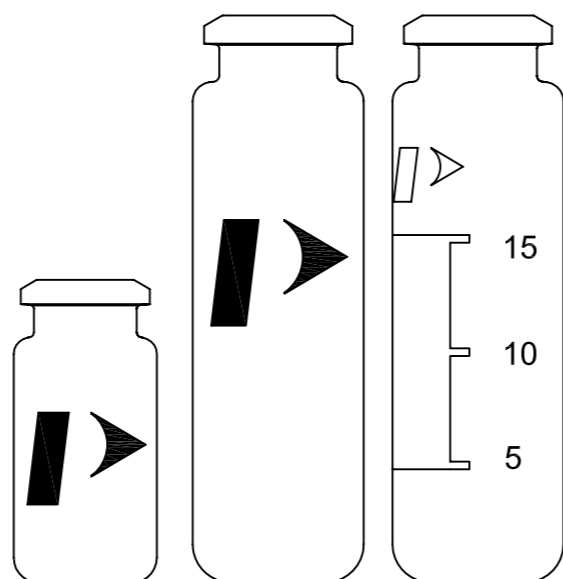
- Vials are made from Type I Borosilicate Glass; which meets all USP, JP and EP requirements. This glass is very hard and has a low expansion coefficient even at high temperature
- Vials are stringently tested using camera gauging technology to ensure final product meets all dimensional specifications
- All our vials, caps and septa are fit to perform on PerkinElmer and non-PerkinElmer instruments
- We stock a wide variety of sizes, colors and materials of vials, caps and septa
- All vials are packed in a clean room and those labelled with 'LC Clean' include an additional certificate of analysis
- Option for ultra low bleed septa for the ultimate in inertness. Batch certification is also available

### Cap and Septa Compatibility

	Aluminum/Silicone	PTFE/Silicone	PTFE/Red Rubber	PTFE/Butyl (Red or Gray)	Red or Gray Butyl
Temperature Range	Up to 220 °C	Up to 210 °C	Up to 160 °C	Up to 130 °C	Up to 130 °C
Use for Multiple Injections?	No	Yes	Yes	No	No
Price per 1000	Most Expensive	Expensive	Economical	Economical	Very Economical
Resistance to Coring	Good	Excellent	Good	Low	Low
Recommended for Storage	Yes	Yes	Yes	No	No
Solvent Compatibility					
Acids	Excellent	Excellent	Good	Fair	Fair
Alcohols	Good	Good	Fair	Good	Good
Chloroform	Good	Good	Poor	Fair	Fair
Ethyl acetate	Excellent	Excellent	Good	Fair	Fair
Hexane	Good	Good	Poor	Poor	Poor
Methanol	Excellent	Excellent	Good	Good	Good

# Headspace Vials

PerkinElmer offers a variety of GC headspace vials, caps and septa to fulfil your application needs. Our patented vial and cap design incorporates pressure-relief features which guarantee safe operation with the high pressure typically developed during thermostating. Ordinary vials and caps without these safety features may burst. All of our headspace vials have a greater wall thickness and round base, which enables them to withstand pressure up to 60 psig. Low-volume sampling can be achieved by using a 6 mL vial and vial adaptor. All PerkinElmer headspace vials are manufactured to specific tolerances that are guaranteed for fit and performance.



## Headspace Crimp Top Vials

Round bottomed vials designed for use with PerkinElmer headspace instruments.

Vial Volume	Dimensions (OD x Height) (mm)	Description	Pkg.	Part No.
6 mL	21.75 x 38	Clear Glass Vial (requires Part No. <b>N6120110</b> for use)*	125	<b>N9302134</b>
6 mL	–	Low Volume Adaptor for 6 mL Vial (Part No. <b>N9302134</b> )*	10	<b>N6120110</b>
10 mL	21.75 x 46	Clear Glass Vial (requires Part No. <b>N6120111</b> for use)	100	<b>N6356478</b>
10 mL	–	Low Volume Adapter for 10 mL Vial (Part No. <b>N6120111</b> )	10	<b>N6120111</b>
20 mL	23 x 75.5	Clear Glass Vial (no logo)	1000	<b>N9306216</b>
20 mL	23 x 75.5	Clear Glass Vial with 'P' Logo	100	<b>N9306079</b>
20 mL	23 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines	100	<b>N9303349</b>
20 mL	23 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines	1000	<b>N9303348</b>
20 mL	23 x 75.5	Clear Glass Vial, with 'P' Logo	1000	<b>B0104236</b>

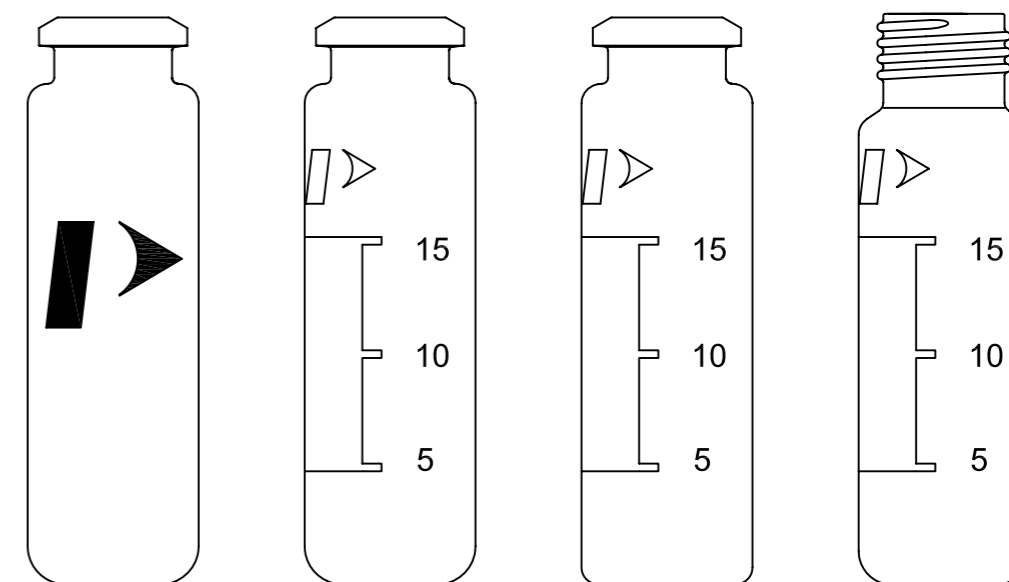
\*Not compatible with TurboMatrix HS 110 headspace sampler



## Headspace Screw Top Vials

Round bottomed vials designed for use with PerkinElmer headspace instruments.

Vial Volume	Dimensions (OD x Height) (mm)	Description	Pkg.	Part No.
10 mL	23 x 46	Clear Glass Vial, No Adaptor	100	<b>N6356479</b>
20 mL	23 x 75.5	Clear Glass Vial with 'P' Logo	100	<b>N9306075</b>
20 mL	23 x 75.5	Clear Glass Vial with 'P' Logo	1000	<b>N9306078</b>
20 mL	23 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines	100	<b>N9306240</b>
20 mL	23 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines	1000	<b>N9306241</b>



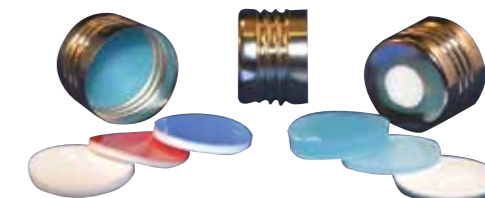
## CTC Headspace Vials

Vial Volume	Vial Closure Type	Dimensions (OD x Height) (mm)	Description	Pkg.	Part No.
20 mL	Crimp	22.6 x 75.5	Clear Glass Vial with 'P' Logo (radius bottom)	100	<b>N6356471</b>
20 mL	Crimp	22.6 x 75.5	Clear Glass Vial with write On Patch and Fill Lines (radius bottom)	100	<b>N6356472</b>
20 mL	Crimp	22.6 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines (radius bottom)	1000	<b>N9303351*</b>
20 mL	Crimp	22.6 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines (flat bottom)	1000	<b>N9303352**</b>
20 mL	Screw	22.6 x 75.5	Clear Glass Vial with Write On Patch and Fill Lines (radius bottom)	1000	<b>N9306242</b>

\*Also suitable for Shimadzu, Tekmar and Varian  
 \*\* Also suitable for Agilent

# Headspace Caps and Septa

Choose the right septa for your analysis. Although a wide variety of septa is chemical compatibility and temperature are the most critical to the analysis. Temperature applies not only to the vial, but also to the temperature of the instrument's needle used for pressurization and sample transfer, which is heated to prevent condensation. A needle temperature higher than the vial temperature setting can decompose the septum material. PTFE coated silicone and aluminum-coated silicone offer the highest temperature operating limits. (See Septa Recommended Chart on page 5 for more details.) Turn to page 12 to view our range of ultra low bleed septa for headspace applications.



## Pre-Assembled Aluminum Crimp Caps and Septa

Septa Type	Aluminum Caps (Pre-Assembled)	Crimp Top Part No. Pkg. 100	Crimp Top Part No. Pkg. 1000
Butyl (red)	Aluminum Cap, Star Spring and Septa	<b>N9304143</b>	<b>N1010070</b>
Butyl (gray)	Aluminum Cap, Star Spring and Septa	<b>N9306269</b>	<b>N9306268</b>
PTFE/Butyl (red)	Aluminum Cap, Star Spring and Septa	<b>N9304144</b>	<b>B4000025</b>
PTFE/Butyl (gray)	Aluminum Cap, Star Spring and Septa	<b>N9306265</b>	<b>N9306264</b>
PTFE/Butyl (gray)	Aluminum Cap		<b>N9302981</b>
PTFE/Butyl (Pharma Fix Septa)	Aluminum Cap	<b>N9306224</b>	
PTFE/Red Rubber (red)	Aluminum Cap, Star Spring and Septa	<b>N9304147</b>	<b>N9302978</b>
PTFE/Silicone (white)	Aluminum Cap, Star Spring and Septa	<b>N9304146</b>	<b>B4000022</b>
PTFE/Silicone (white) Low Bleed	Aluminum, Skived Pressure Relief		<b>N9302975</b>
PTFE/Silicone (white) Low Bleed	Aluminum, Skived (non-Pressure Relief)		<b>N9302977</b>
PTFE/Silicone (natural) Low Bleed	Aluminum, Skived (non-Pressure Relief)		<b>N9302976</b>
Aluminum/Silicone	Aluminum Cap, Star Spring and Septa	<b>N9304145</b>	<b>B4000028</b>
Ultra Low Bleed PTFE/Silicone (blue/white) 1.5 mm thick	Gold Aluminium Cap	<b>N9304183</b>	<b>N9304184</b>

## Pre-Assembled Magnetic Crimp and Screw Caps and Septa

Septa Type	Closure	Magnetic Caps (Pre-Assembled)	Part No. Pkg. 100	Part No. Pkg. 1000
Butyl (gray)	Crimp	Steel Magnetic Cap	<b>N6356561</b>	
PTFE/Butyl (red), 3.0 mm thick	Screw	Steel Magnetic Cap	<b>N9306076</b>	
PTFE/Butyl (red), 1.5 mm thick	Crimp	Steel Magnetic Cap	<b>N6356560</b>	
PTFE/Butyl (red), 1.5 mm thick	Screw	Steel Magnetic Cap	<b>N6356477</b>	
PTFE/Butyl (blue)	Crimp	Bi-Metal Magnetic Cap	<b>N6356565</b>	
PTFE/Butyl (Pharma Fix Septa)	Crimp	Steel Magnetic Cap	<b>N6356562</b>	
PTFE/Silicone (red)	Screw	Steel Magnetic Cap	<b>N6356474</b>	
PTFE/Silicone (blue/white) 0.060 in. thick	Screw	Steel Magnetic Cap	<b>N6356476</b>	
PTFE/Silicone (white)	Screw	Steel Magnetic Cap	<b>N9306077</b>	
PTFE/Silicone (natural)	Crimp	Steel Magnetic Cap	<b>N6356558</b>	
PTFE/Silicone (blue)	Crimp	Steel Magnetic Cap	<b>N6356559</b>	
PTFE/Silicone (blue)	Screw	Steel Magnetic Cap	<b>N6356475</b>	
PTFE/Silicone (blue)	Crimp	SPME Liner Steel Magnetic Cap	<b>N6356564</b>	
PTFE/Silicone (blue)	Crimp	Bi-Metal Magnetic Cap	<b>N6356566</b>	
Aluminum/Silicone	Crimp	Steel Magnetic Cap	<b>N6356563</b>	
Ultra Low Bleed PTFE/Silicone (blue/white) 1.5 mm thick	Crimp	Bi-Metal Cap	<b>N9304181</b>	<b>N9304182</b>
Ultra Low Bleed PTFE/Silicone (blue/white) 1.5 mm thick	Screw	Aluminium Magnetic Cap	<b>N9304175</b>	<b>N9304176</b>
Ultra Low Bleed PTFE/Silicone (red/white) 1.3 mm thick	Screw	Aluminium Magnetic Cap	<b>N9304177</b>	<b>N9304178</b>
Ultra Low Bleed PTFE/Silicone (white/blue) 1.3 mm thick	Screw	Aluminium Magnetic Cap	<b>N9304179</b>	<b>N9304180</b>

## Un-Assembled Aluminum Crimp Caps and Septa

Septa Type	Aluminum Caps (Un-Assembled)	Crimp Top Part No. Pkg. 100	Crimp Top Part No. Pkg. 1000
Butyl (red)	Aluminum Cap, Star Spring and Septa	<b>B0159356</b>	<b>B0159357</b>
Butyl (gray)	Aluminum Cap, Star Spring and Septa	<b>N9306270</b>	<b>N9306271</b>
Butyl (gray) Stopper	Aluminum Cap (ridged)		<b>N9303350</b>
Butyl (gray) Stopper	Aluminum Cap		<b>B0110728</b>
PTFE/Butyl (red)	Aluminum Cap, Star Spring and Septa	<b>B0104239</b>	<b>B0104240</b>
PTFE/Butyl (gray)	Aluminum Cap, Star Spring and Septa	<b>N9306266</b>	<b>N9306267</b>
PTFE/Red Rubber (red)	Aluminum Cap, Star Spring and Septa	<b>N9302979</b>	<b>N9302980</b>
PTFE/Silicone (white)	Aluminum Cap, Star Spring and Septa	<b>B0104241</b>	<b>B0104242</b>
Aluminum/Silicone	Aluminum Cap, Star Spring and Septa	<b>B0104243</b>	<b>B0104244</b>
	Aluminum Cap	<b>B0099814</b>	<b>N9302969</b>

# Headspace Vial, Cap and Septa Convenience Kits

PerkinElmer understands your challenges and offers a variety of kits so that you can easily order and restock your laboratory supplies.



## Crimp Top

Septa Type	Cap Type	Vial Type	Part No. Pkg. 100	Part No. Pkg. 500
Butyl (red)	Aluminum Cap, Star Spring and Septa	20 mL Crimp Top Clear Glass with Write on Patch and Fill Lines	<b>N9303990</b>	
Butyl (gray)	Aluminum Cap, Star Spring and Septa	20 mL Crimp Top Clear Glass with Write on Patch and Fill Lines	<b>N9306269</b>	
PTFE/Butyl (red)	Aluminum Cap, Star Spring and Septa	20 mL Crimp Top Clear Glass with Write on Patch and Fill Lines	<b>N9303991</b>	
PTFE/Butyl (gray)	Aluminum Cap, Star Spring and Septa	20 mL Crimp Top Clear Glass with Write on Patch and Fill Lines	<b>N9306265</b>	
PTFE/Silicone (natural)	Aluminum, Skived Pressure Relief (low bleed)	20 mL Crimp Top Clear Glass with Write-on Patch and Fill Lines (Flat Bottom)		<b>N9300901</b>
PTFE/Silicone (white)	Aluminum, Skived Pressure Relief (low bleed)	20 mL Crimp Top Clear Glass with Write-on Patch and Fill Lines (Flat Bottom)		<b>N9300902</b>
PTFE/Silicone (white)	Aluminum, Skived (low bleed)	20 mL Clear Glass with Write-on Patch and Fill Lines (Flat Bottom)		<b>N9300903</b>
PTFE/Silicone (white)	Aluminum Cap, Star Spring and Septa	20 mL Crimp Top Clear Glass with Write on Patch and Fill Lines	<b>N9303992</b>	
Aluminum/Silicone	Aluminum Cap, Star Spring and Septa	20 mL Crimp Top Clear Glass with Write on Patch and Fill Lines	<b>N9303993</b>	

## Screw Top

Septa Type	Cap Type	Vial Type	Part No. Pkg. 100
PTFE/Silicone	Open Top Gray Polypropylene Screw Cap	40 mL Screw Top Clear Glass (24 mm x 98 mm)	<b>N6352030</b>
PTFE/Silicone	Open Top Gray Polypropylene Screw Cap	40 mL Screw Top Amber Glass (24 mm x 98 mm)	<b>N6352031</b>
PTFE/Silicone			<b>N6352032</b>
	Open Top Gray Polypropylene Screw Cap		<b>N6352033*</b>

\*N6352033 is only available in pkg. 72

# Headspace Starter Kits

We offer a variety of headspace consumables so you can evaluate different types of septa and vials for your sampling requirements.

Kits Include:	Part No.	Headspace Starter Kit 500	Headspace Starter Kit 100	Headspace Mini Starter Kit	Headspace Mini Starter Kit 1000
		Part No. B0505601	Part No. N6710195	Part No. N6710197	Part No. N6710198
20 mm Hand Crimper	<b>N9302785</b>	1	1	1	1*
20 mL Clear Glass Crimp Top Vials	<b>N9306079</b>	500	500	100	1000
PTFE/Butyl (red) Septa with Pre-Assembled Aluminum Crimp Caps	<b>B0104239</b>	100	100	100	
PTFE/Silicone (white) Septa with Pre-Assembled Aluminum Crimp Caps	<b>B0104241</b>	100	100	100	1000
Aluminum/Silicone Septa with Pre-Assembled Aluminum Crimp Caps	<b>B0104243</b>	100	100	100	
20 mL Clear Glass Screw Top Vials	<b>N9306075</b>	500	100	100	
PTFE/Butyl (red) Septa with Steel Magnetic Screw Caps	<b>N9306076</b>	100	100	100	
PTFE/Silicone (white) Septa with Steel Magnetic Screw Caps	<b>N9306077</b>	100	100	100	
Needle Seal Assemblies	<b>B0500833</b>	2	2	2	
O-Rings	<b>B0198110</b>	10	10	10	
Pressure Gauge with Needle for Vials	<b>B0501377</b>	1	1	1	
'Static Headspace GC Theory and Practice' book by B. Kolb and L.S. Ettre	<b>N1011210</b>	1	1		

\* This kit includes an Ergonomic Hand Crimper

# VOA Vials and Caps

Description	Pkg.	Part No.
Vial, Screw Top, Clear Glass, Size 40 mL, OD 24 mm x 98 mm H, Open Top Gray Polypropylene Closure with Teflon®/Silicone Septa, 22 mm dia., .125 mil thick	72	<b>N6352030</b>
Vial, Screw Top, Amber Glass, Size 40 mL, OD 24 mm x 98 mm H, Open Top Gray Polypropylene Closure with Teflon®/Silicone Septa, 22 mm dia., .125 mil thick	72	<b>N6352031</b>
Septa, Teflon®/Silicone, 22 mm, .125 mil thick	72	<b>N6352032</b>
Open Top Closure, Polypropylene 24-414 Thread Cap	24	<b>N6352033</b>

# Headspace

Description	Pkg.	Qty.	Part No.
<b>Butyl Rubber Stoppers with Caps</b>	1000	1	<b>B0110728</b>
Butyl Rubber Stopper 100 10 B0038137	72	1	<b>N6352031</b>
Knurled Caps 100 10 B0099814	72	1	<b>N6352032</b>
<b>PTFE/Silicone Injector Septa</b>	12	1	<b>00091357</b>
Injection-Septa	12	1	<b>00092388</b>
<b>Pharma Fix Cap and Septa</b>			
20 mm Aluminum Crimp Seal Lined with Gray Butyl Septa and PTFE Ring Assembled	1000	1	<b>N9306224</b>
<b>Butyl Rubber Stoppers with Ridged Crimp Cap</b>			
20 mm Aluminum Ridged Center Hole Crimp Seal with Gray Butyl Stopper Septa	1000	1	<b>N9303350</b>

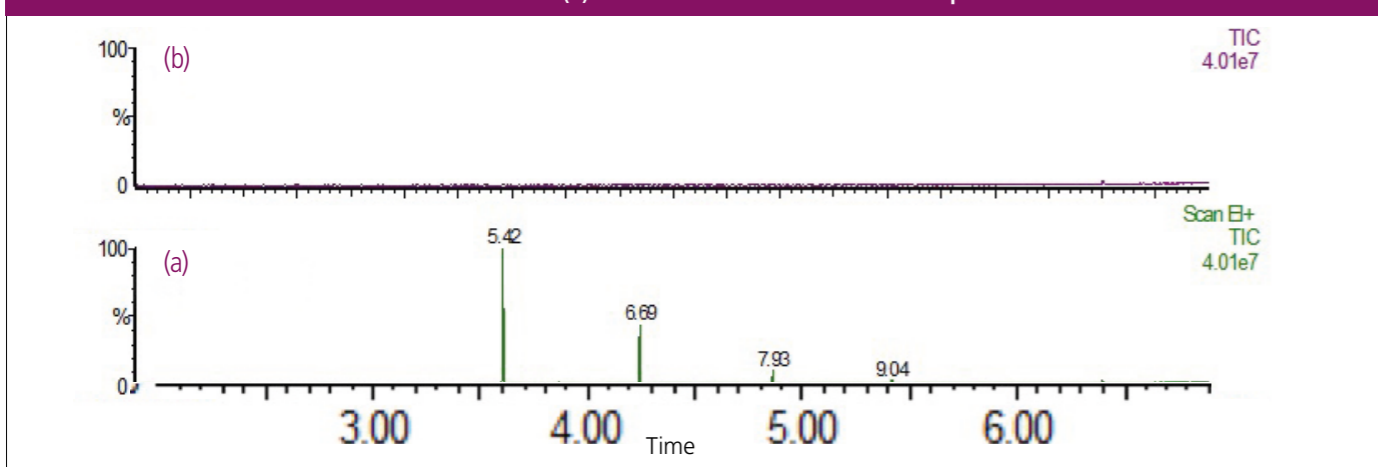


## Ultra Low Bleed Septa

Septa quality, as well as vial quality, is important to ensure rugged and reproducible analytical results, day in day out. PerkinElmer's range of ultra-low bleed septa offers the ultimate in purity and inertness, (figure 1). Eliminate potential contamination from septa, which can lead to interferences, inaccuracies and failures which ultimately effects lab productivity. A range of septa combinations area available for standard analytical and headspace applications. The 1.3 mm thick septa are recommended for SPME applications.



Figure 1: Comparison of Headspace Septa by GC (a) PerkinElmer Standard HS Septa. (b) PerkinElmer Ultra Low Bleed HS Septa.



### Headspace Caps with Ultra Low Bleed Septa

Septa Type	Cap Type	Closure Type	Pkg.	Part No
PTFE/Silicone (blue/white) 1.5 mm thick	Bi-Metal Cap	Crimp	100	N9304181
PTFE/Silicone (blue/white) 1.5 mm thick	Bi-Metal Cap	Crimp	1000	N9304182
PTFE/Silicone (blue/white) 1.5 mm thick	Gold Aluminium Cap	Crimp	100	N9304183
PTFE/Silicone (blue/white) 1.5 mm thick	Gold Aluminium Cap	Crimp	1000	N9304184
PTFE/Silicone (blue/white) 1.5 mm thick	Aluminium Magnetic Cap	Screw	100	N9304175
PTFE/Silicone (blue/white) 1.5 mm thick	Aluminium Magnetic Cap	Screw	1000	N9304176
PTFE/Silicone (red/white) 1.3 mm thick	Aluminium Magnetic Cap	Screw	100	N9304177
PTFE/Silicone (red/white) 1.3 mm thick	Aluminium Magnetic Cap	Screw	1000	N9304178
PTFE/Silicone (white/blue) 1.3 mm thick	Aluminium Magnetic Cap	Screw	100	N9304179
PTFE/Silicone (white/blue) 1.3 mm thick	Aluminium Magnetic Cap	Screw	1000	N9304180

## Electronic and Manual Crimpers

Whatever your need may be, PerkinElmer offers a wide range of crimping tools for your convenience. Our universal voltage, precision control, power crimpers with adjustable settings are designed to deliver hundreds of crimps on a single battery charge. The tools are ergonomically designed to reduce strain associated with the repetitive actions of using a blocky metal manual crimping tool.



### Headspace Crimper and Decapper Tools

Description	Qty.	Part No.
Benchtop Crimper	1	N6621006
Benchtop Crimper Jaws – 20 mm	1	N6621009
Electronic Hand Crimper – 20 mm	1	N9304501
Electronic Hand Decapper – 20 mm	1	N9304503
Manual Hand Crimper – 20 mm	1	N9302785
Manual Hand Crimper (Ergonomic) – 20 mm	1	N6621037
Manual Hand Decapper – 20 mm	1	N9301270
Manual Hand Decapper (Ergonomic) – 20 mm	1	N6621038

### High Powered Crimpers and Decappers

The high powered crimper and decapper is an essential laboratory accessory for any high throughput environment. Realize the benefits of not only fast and accurate crimping or decapping, but also the ultimate tool in flexibility with interchangeable jaw sets. Now in a single unit you can crimp and decap standard analytical vials and headspace vials. Changing the jaws, either size or function, takes a matter of just seconds.

Description	Qty.	Part No.
High Powered Crimping Tool	1	N9304510
20 mm Crimper Jaw Set	1	N9304511
20 mm Decapper Jaw Set	1	N9304512
11 mm Crimper Jaw Set	1	N9304513
11 mm Decapper Jaw Set	1	N9304514
Base and Mounting Kit	1	N9304515

## Advanced Filter System

The Advanced Filter System has high-capacity and efficiency levels for oxygen, water and hydrocarbons. The recommended maximum flow rate is 2 L/min with 200 psi maximum operating pressure.

A polycarbonate shield surrounding the glass indicator section of the filter is sealed, unlike other gas filters, the gas flow is secure even if the glass should break. This redundant sealing system and robust construction provides a new level of security in gas filtration.



### Features and Benefits

- Two indicators – for oxygen and moisture
- High capacity and efficiency in a single, easy to replace, cartridge
- Double-seal construction for safety
- Check valves protect gas lines during replacement
- Includes mounting hardware for bench or wall

Description	Part No.
Advanced Filter System	<b>N9303963</b>
Replacement Cartridge for Oxygen, Water and Hydrocarbons	<b>N9303964</b>
Manifold and Mounting Hardware	<b>N9303139</b>

Description	Capacity	Efficiency
Oxygen	850 cc	<5 ppb
Water	12 g	<20 ppb
Hydrocarbons	8 g	<5 ppb

### Features and Benefits

- High purity output insures 99.9999% pure gas
- No tool replacement of filter cartridges, no need to shut gas flow off with quick disconnect base plate
- Easy to read indicators to determine replacement interval
- Helium and Hydrogen specific cartridges available: operational with 15 minute purge after installation
- Safety shielding of glass filter with plastic cover
- Serial numbered for ease of tracking

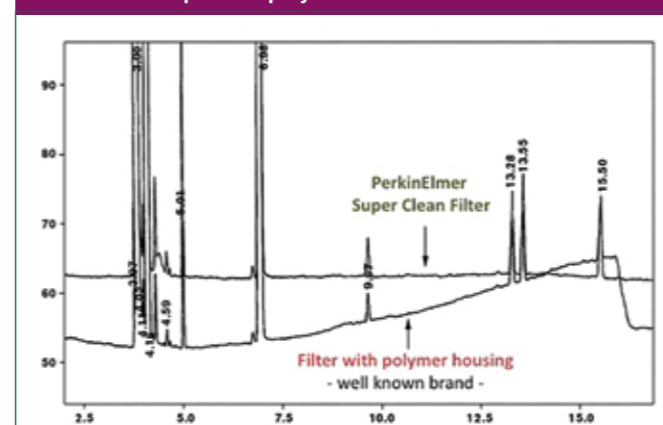
### Carrier Gas Purity

Carrier gas should contain less than 1 ppm of oxygen, moisture, or other trace contaminants to prevent column degradation, increase column lifetime, and decrease stationary phase bleed. The expense of using high purity gases in combination with carrier gas line purifiers will be offset by longer column lifetime and less GC maintenance.

Contaminants cause ghost peaks to appear during temperature programming and degrade the validity of analytical data. Make-up gas also should be contaminant-free, or baseline fluctuations and excessive detector noise can occur. Detector gases should be free of water and hydrocarbons, or excessive baseline noise can result. Gas purifiers remove these contaminants from gas sources, thereby improving system performance.

When the easy to read indicators change color it is a signal on a major gas carrier problem; a major leak upstream or downstream, a high concentration of contaminants or to late replacement or filter replacement is overdue. This is the time to swap a filter. To prevent contamination or saturation issues, the filter should be swapped every 12 months, at a minimum, regardless if the indicator has changed color or not. Some high throughput applications may need the filter changed every 6 months.

### Comparing baseline performance with PerkinElmer SuperClean filters vs. a competitive polymer housed filter.



## Ultra Clean Gas Filters

Wrenches to change filters is a thing of the past. There is no longer a need for loosening and tightening fittings every time a trap is changed, which may contaminate your system during the process. Cartridge systems make changing gas filters quick and easy. A base plate allows cartridges to be exchanged without introducing ambient air. Spring-loaded check valves seal when a filter is removed and open only when a new filter has been locked in place.



## Ultra Clean Gas Filter Kits for GC and GC/MS

Available with different sized fittings, (1/8 in. or 1/4 in.) in brass or stainless steel, these complete filter kits contain everything you need to quickly and easy install into your analytical system; instantly assuring you of a continual high purity gas supply.

### Triple Filter Kit for MS/ECD/NPD

The triple combination filter kit is ideal for purifying GC/MS carrier gases. It contains oxygen, moisture and hydrocarbon scrubbers in one easy to change economical cartridge. There is of a range of brass and stainless steel base plate fittings and options for hydrocarbon trap to be helium or hydrogen specific, in addition to the general carrier gas.

Description	Qty.	Part No.
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/4 in. Brass Kit: Includes (1) 1 position base plate with 1/4 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306828</b>
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/8 in. Brass kit: Includes (1) 1 position base plate with 1/8 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306829</b>
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/4 in. Stainless Steel kit: Includes (1) 1 position base plate with 1/4 in. Stainless Steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306830</b>
PerkinElmer Triple (Oxygen/Moisture/Hydrocarbon) Filter Kit – 1/8 in. Stainless Steel kit: Includes (1) 1 position base plate with 1/8 in. Stainless Steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap	Kit	<b>N9306831</b>
PerkinElmer Triple Filter (Oxygen/Moisture/Hydrocarbon)	1	<b>N9306819</b>
PerkinElmer Triple Filter (Oxygen/Moisture/Hydrocarbon): Helium specific filter	1	<b>N9306820</b>
PerkinElmer Triple Filter (Oxygen/Moisture/Hydrocarbon): Hydrogen specific filter	1	<b>N9306822</b>



Configuration	Benefit
GC/MS	Higher data accuracy and less maintenance
GC/ECD	Greater sensitivity
GC/TCD	Greater sensitivity and less maintenance

### Complete Triple Filter Bundle Kit for FID

This complete filter kit is the perfect all-in-one solution for purifying Flame Ionization Detector (FID) fuel gases together with the carrier gas. The triple filter simultaneously hydrocarbons, moisture and oxygen are removed from the carrier gas and combi filter removes both moisture and hydrocarbons from the hydrogen and air fuel gases. The kit consists of one triple filter and two combi filters (hydrogen and air) together with one three position base plate. There are a range of base plate fittings options available.

Description	Qty.	Part No.
PerkinElmer 3 Filters Kit – 1/4 in. Brass: Includes (1) 3 position base plate with 1/4 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306842</b>
PerkinElmer 3 Filters Kit – 1/8 in. Brass: Includes (1) 3 position base plate with 1/8 in. Brass inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306843</b>
PerkinElmer 3 Filters Kit – 1/4 in. stainless steel: Includes (1) 3 position base plate with 1/4 in. stainless steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306844</b>
PerkinElmer 3 Filters Kit – 1/8 in. stainless steel: Includes (1) 3 position base plate with 1/8 in. stainless steel inlet/outlet fittings and (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	Kit	<b>N9306845</b>
PerkinElmer Triple Filter – (Oxygen/Moisture/Hydrocarbon)	1	<b>N9306819</b>
PerkinElmer Combi (Hydrocarbon/Moisture) Filter	1	<b>N9306818</b>
PerkinElmer Filter Bundles: Includes (1) Oxygen/Moisture/Hydrocarbon Trap and (2) Hydrocarbon/Moisture Traps	3	<b>N9306826</b>



Configuration	Benefit
GC/FID	Improved reproducibility and sensitivity



## Ordering Information

Place your order online at: [www.perkinelmer.com/shop](http://www.perkinelmer.com/shop)

Online ordering is currently available in Australia, Austria, Belgium, Canada, China, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Puerto Rico, Singapore, Spain, Sweden, Switzerland, the United Kingdom and the United States.

Please contact your local PerkinElmer Customer Care Representative.  
Or visit [www.perkinelmer.com/lasoffices](http://www.perkinelmer.com/lasoffices).

Visit us online at [www.perkinelmer.com/lasoffices](http://www.perkinelmer.com/lasoffices) to obtain the correct address for mailing your company Purchase Order.

## Return Goods Policy

Before returning any item to PerkinElmer, please obtain a Return Authorization Number from a customer service representative. Call your local PerkinElmer office and please have the following information ready:

- Our Order Number or your Purchase Order Number
- The PerkinElmer part numbers of the items that you wish to return
- Reason for return

Our customer service representative will provide you with a Return Authorization Number and the return address. We cannot accept any returns without a Return Authorization Number. Policy may vary. Please contact your local PerkinElmer representative for details.

## Technical Support

For technical assistance, please contact your local PerkinElmer Customer Care Representative. See local office listings.

Check with your local PerkinElmer Customer Care center for current pricing.

PerkinElmer and the PerkinElmer logo are registered trademarks of PerkinElmer, Inc. All other product and company names mentioned herein may be the trademarks or registered trademarks of their respective owners.

PerkinElmer is not responsible for typographical or photographic errors that may appear in this catalog. We reserve the right to make adjustments or corrections due to changing market conditions, product discontinuations, or typographical or photographic errors in advertisements or product descriptions. Terms and conditions and item availability are subject to change without notice.

## Terms and Conditions

For details on our terms and conditions, including warranties, please visit: [www.perkinelmer.com/terms](http://www.perkinelmer.com/terms)

**PerkinElmer, Inc.**  
940 Winter Street  
Waltham, MA 02451 USA  
P: (800) 762-4000 or  
(+1) 203-925-4602  
[www.perkinelmer.com](http://www.perkinelmer.com)



For a complete listing of our global offices, visit [www.perkinelmer.com/ContactUs](http://www.perkinelmer.com/ContactUs)

Copyright ©2018, PerkinElmer, Inc. All rights reserved. PerkinElmer® is a registered trademark of PerkinElmer, Inc. All other trademarks are the property of their respective owners.

009709C\_01