

BOROSIL[®] Scientific

Vials & Closures

FOR HPLC & GC SYSTEMS

For Labs
where
compliance
matters





Vials are used as a sample vessels; for instance, in auto sampler devices in analytical chromatography

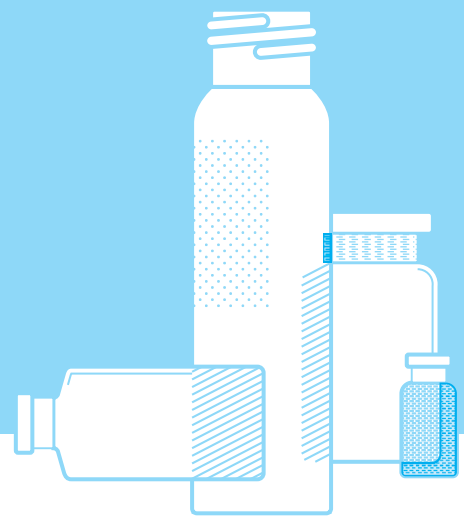
Depending on the analytical requirement; the size, material of construction, and specificity of the vial change significantly. Since there are so many types of vials available, choosing the right one for your laboratory can feel like a challenge. It's worth choosing quality vials to protect your samples and products, and guarantee the quality of your analytical results.

Most vials are made of glass or plastic, and the material you choose must be compatible with your samples and storage methods.

Glass continues to be the ideal material for general laboratory applications. Glass keeps chemicals safe from environmental factors like light and moisture and allows a long shelf life. You'll find glass containing some of the world's most valuable liquids, from venom to insulin. BOROSIL is specialized in Glass Vials.

Working at today's low analyte concentration with hyphenated techniques, you may see inconsistent results from analyte adsorption on the surface of glass vials. With the proprietary manufacturing process of MS Certified vials, you can minimize adsorption and unfavorable inconsistent results.

MS certified vials are the only vials tested and certified for low analyte adsorption at 1 ng/mL – making them the ideal solution for technical applications. Borosil offers a broad range of autosampler vials with different closure techniques, such as screw or crimp. They fulfill all requirements for chromatography analysis



- Introduction to Chromatography Vials
- Vial Manufacturing Process
- Classification of Vials & Closures

Over
29 Years ”

OF VIAL MANUFACTURING EXCELLENCE



No matter which make of instrument you use, it is critical that your sample is carried in a **Reliable Vial**

Pharmacopoeia recommend use of **Type I Glass** to be suitable for all pharmaceutical products

Borosil vials are processed from borosilicate USP Type I **Clear** or **Amber** glass

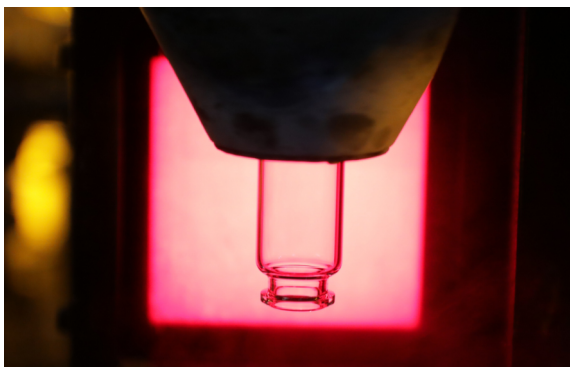
Raw materials are certified for Hydrolytic Resistance as per **USP, EP, JP, ASTM, DIN**





Vial forming Process

On automated machines for
utmost consistency

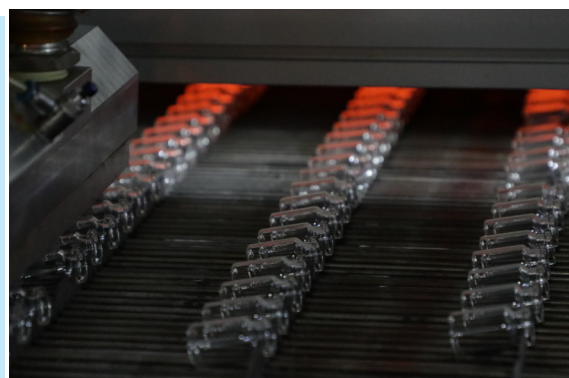


Dimensional Inspection

Online optical inspection to minimize
ensure 100% dimensional and cosmetic
conformance

Annealing Process

Imparts mechanical
strength to the vial



Final Inspection and packing

Packed in ISO Certified
Class 8 Clean Room facility with
minimum human intervention



Vials are manufactured with highly-sophisticated production technology under strict standards of cleanliness



High quality

test results with 33-Expansion & 51-Expansion Borosilicate Type I glass vial

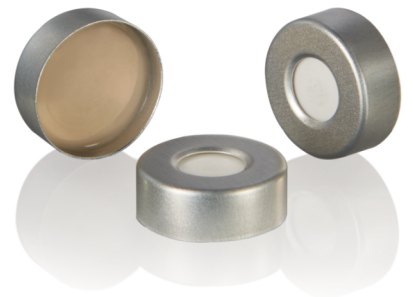


Demonstrates excellent resealable characteristics of PTFE-Silicone septa



Accuracy

of crimp and leak proof septa to control the level of Volatiles



Headspace vials with high level of precision &

Accuracy



Certified

TOC Vials to reduce particulate contamination

Types of

Vials & Closures



2ml

LC / LC-MS / GC / GC-MS VIALS / CLOSURES / KIT

Quality assurance for
dimensional consistency

Caps with PTFE (Cleanliness) &
Silicone (Resealability) septa

20ml

GC-HEADSPACE VIALS / CLOSURES / KIT

Available in flat &
round bottom designs
Choice of a pressure safety
release cap at 45 psi

40ml

PRE-ASSEMBLED / EPA / TOC KIT

Low level of TOC vials
Pre-assembled with
polypropylene caps and
PTFE/Silicone septa

2ml

VIALS / CLOSURES / KIT

LC / LCMS / GC / GC-MS

Borosil vials are manufactured from USP Type I Borosilicate glass as specified by EU & US Pharmacopoeia with PTFE Silicon Septa



Borosil vials are manufactured under **CONTROLLED PROCESS CONDITION**

Online camera for 100% **DIMENSIONAL INSPECTION**

Class 8 Clean Room packaging to avoid the **RISK OF CROSS CONTAMINATION**

Quality Assurance & Risk Mitigation

Chemical Testing Reports - Cleanliness

SCREW NECK

CLEAR



AMBER



CRIMP NECK

CLEAR



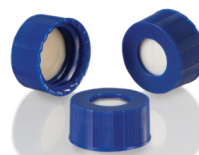
AMBER



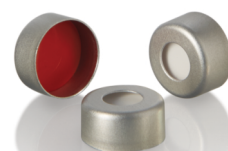
Ultra pure 9mm/11mm caps with PTFE-Silicone septa

- Pure silicone no bleeding
- PTFE absolutely inert material-Product safety
- Hardness 45° Shore A- softer for safe penetration

For 9mm Screw Cap Vial

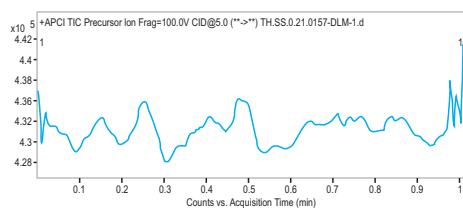


For 11mm Screw Cap Vial

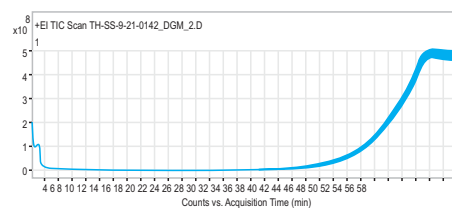


Lowest leaching characteristics glass vials

LCMS-MS CHROMATOGRAM

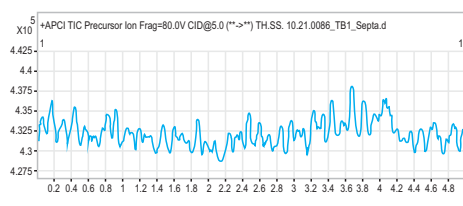


GCMS CHROMATOGRAM

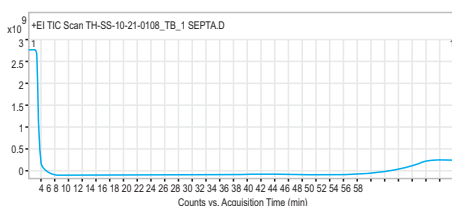


Lowest leaching characteristics septa

LCMS-MS CHROMATOGRAM



GCMS CHROMATOGRAM



Product Code

Neck
Dia

Septa
Feature 1

Graduation with
write on patch

Septa
Feature 2

Pack
Size

Case
Lot

9mm Screw Top Clear Vials made from Borosilicate USP Type I 49-Expansion glass with Closure
Blue PP Cap PTFE-Silicone Septa

VC02C009PBS124	9mm	Non Slit	NO	Bonded	100	10 X 100
VC02C009PBS114	9mm	Pre Slit	NO	Bonded	100	10 X 100
VC02C109PBS124	9mm	Non Slit	YES	Bonded	100	10 X 100
VC02C109PBS114	9mm	Pre Slit	YES	Bonded	100	10 X 100
VC02C109PBS113	9mm	Pre Slit	YES	Bonded	100	10 X 100

9mm Screw Top **AMBER** Vials made from Borosilicate USP Type I 54-Expansion glass with Closure
Blue PP Cap PTFE-Silicone Septa

VC02A009PBS124	9mm	Non Slit	NO	Bonded	100	10 X 100
VC02A009PBS114	9mm	Pre Slit	NO	Bonded	100	10 X 100
VC02A109PBS124	9mm	Non Slit	YES	Bonded	100	10 X 100
VC02A109PBS114	9mm	Pre Slit	YES	Bonded	100	10 X 100
VC02A109PBS113	9mm	Pre Slit	YES	Bonded	100	10 X 100

11mm Crimp Top Clear Vials made from Borosilicate USP Type I 49-Expansion glass with Closure
Silver Aluminium Crimp PTFE-Silicone Septa

VC02C011ASC021	11mm	Non Slit	NO	Non Bonded	100	10 X 100
VC02C011ASC022	11mm	Pre Slit	NO	Non Bonded	100	10 X 100
VC02C111ASC021	11mm	Non Slit	YES	Non Bonded	100	10 X 100
VC02C111ASC022	11mm	Pre Slit	YES	Non Bonded	100	10 X 100

11mm Crimp Top **AMBER** Vials made from Borosilicate USP Type I 54-Expansion glass with Closure
Silver Aluminium Crimp PTFE-Silicone Septa

VC02A011ASC021	11mm	Non Slit	NO	Non Bonded	100	10 X 100
VC02A011ASC022	11mm	Pre Slit	NO	Non Bonded	100	10 X 100
VC02A111ASC021	11mm	Non Slit	YES	Non Bonded	100	10 X 100
VC02A111ASC022	11mm	Pre Slit	YES	Non Bonded	100	10 X 100

2ml



HPLC CERTIFIED

VIALS / CLOSURES / KIT

"for labs where compliance matters"

3.3 Expansion

USP Type I

ASTM Class A

3.3 Expansion
Borosilicate Type I
glass with
LOW ALKALI

LCMS-MS and
GCMS

tested vials & septa
with different solvents

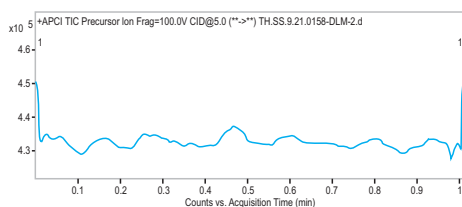


Leak proof
ultra-pure certified
CHEMICALLY INERT
PTFE-Silicone Septa

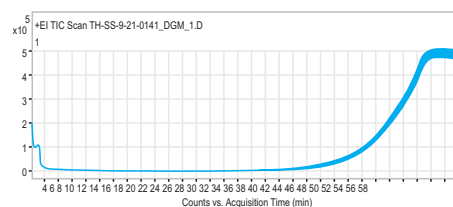
Specified level of
CLEANLINESS
and dimensional
conformity

Lowest leaching characteristics glass vials

LCMS-MS CHROMATOGRAM

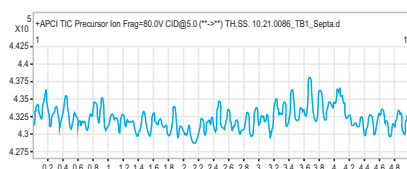


GCMS CHROMATOGRAM

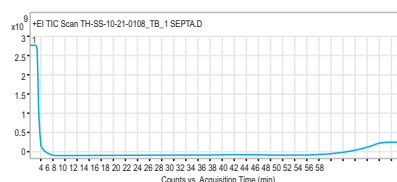


Lowest leaching characteristics septa

LCMS-MS CHROMATOGRAM



GCMS CHROMATOGRAM



Critical dimensions are 100% inspected by optical & electronic test methods
Random samples are checked for cosmetic defects and finish

TEST	PARAMETERS	RESULTS
Dimensional	Total Height	☒
	Inner Neck Diameter	☒
	External Thread Diameter	☒
	Body Diameter	☒

Product Code	Neck Dia	Septa Feature 1	Graduation with write on patch	Septa Feature 2	Pack Size	Case Lot
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9mm Screw Top Clear Vials made from Borosilicate USP Type I, ASTM Class A 33-Expansion glass
with Closure Blue PP Cap Ultra Pure Certified PTFE-Silicone Septa

VC02C409PBSUM1	9mm	Pre Slit	YES	Bonded	100	10 X 100
VC02C409PBSUM2	9mm	Non Slit	YES	Bonded	100	10 X 100

9mm Screw Top Clear Vials made from Borosilicate USP Type I, ASTM Class A 33-Expansion glass
with Closure Blue PP Cap High Purity PTFE-Silicone Septa

VC02C409PBS113	9mm	Pre Slit	YES	Bonded	100	10 X 100
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20ml

CERTIFIED GC HEADSPACE VIALS / CLOSURES / KIT

Borosilicate USP Type I, Glass vials
with aluminum Crimp Cap

Borosilicate USP Type I glass
vials available in Flat & Round
bottoms designs

Compatible with all
autosamplers of GC-HS
machines

No risk of explosion during
excess Internal pressure

	Flat Bottom	CLEAR	CLEAR
			
	Round Bottom		
			
Descriptions	Flat Bottom	Round Bottom	
	Vials have to run within the instruments on a slightly downward tendency	Vials slights more easily into the heating block when being transported	

Aluminium Crimp Seals Closures

Safety caps for Headspace analysis

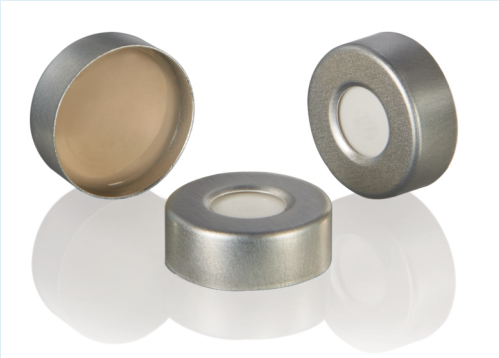
Ultra Clean Silicone white/PTFE beige

Low extractable silicone

Standard thickness
Headspace Septa



Sealing Test
Penetration Test
Evaporation Test



Product Code	Neck Dia	Septa Feature 1	Graduation with write on patch	Septa Feature 2	Pack Size	Case Lot
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20mm Crimp Top Clear Vials made from Borosilicate USP Type I 49-Expansion glass with
Closure Silver Aluminium Crimp PTFE-Silicone Septa

VC20R120ASC041	20mm	Non Slit	YES	Non Bonded	100	5 X 100
VC20F120ASC041	20mm	Non Slit	YES	Non Bonded	100	5 X 100

40ml

EPA / TOC COMBIPACK

Certified TOC Vials
with ultra pure screw open top
caps

Pre-Assembled screwed vials
reduce the risk of
contamination

Process control for
lower TOC background



TOC Certificate Vials with <10 ppb level

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E: borosil@borosil.com
www.borosil.com

Certificate of Analysis

Product Code	VC40C124POS111
Description	40ml Screw Neck Clear Glass Vial with Pre-assembled Silicone PTFE Bonded Protective Open Top Cap
TOC Level*	<10 ppb

*Based on APHA (2nd Edition) 5310 B: 2017 Method
Specifications & Description:

Borosil vials are manufactured from Type I Borosilicate glass as specified by EU & US Pharmacopoeia, chemically highly resistant glass. Critical dimensions are 100% inspected by optical & electrical test methods. Random samples are checked for cosmetic defects and finish. Low bleed silicone-PTFE bonded protective open top cap.

Parameter Measured	Result
Vial total height	Complies
Inner neck diameter	Complies
External thread diameter	Complies
Body diameter	Complies

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Glass vials with closures (COMBIPACK)

Product Code	Neck Dia	Vial Colour	Septa Feature 1	Graduation with write on patch	Neck Dia	Sepecial Feature 1	Pack Size	Case Lot	List Price 23-24
VC40C124POS111	24mm	Clear	Non Slit	YES	Silicone PTFE	Non Bonded	72	1 X 72	On Request
VC40A124POS111	24mm	Amber	Non Slit	YES	Silicone PTFE	Non Bonded	72	1 X 72	On Request

* Customized sizes are available on request.

Borosil being a manufacturer of vials, provides the chemist access to the detailed testing and quality documentation of vials thereby enabling them to investigate root causes effectively



BOROSIL® Scientific

Vials & Closures

FOR HPLC & GC SYSTEMS

SCAN TO
KNOW MORE



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Laboratory Glassware :
<https://www.borosillab.com>