VIALS

Kimble®
A WORLD OF EXPERTISE IN YOUR HANDS

Kimble®, the largest manufacturer of laboratory glassware products in the world, offers the most comprehensive vial and accessory product portfolio into the Life Science and Chemistry market place. Our offerings include vials, caps and septa for any application which involves sample analysis, storage or retrieval. From sample storage vials to plastic scintillation vials, Kimble® can provide an answer for even the most obscure application.

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Kimble is the leading producer of the most comprehensive range of laboratory and scientific glassware, specializing in a broad range of reusable, disposable, and specialty glassware for the pharmaceutical, environmental, petrochemical, life sciences, education, and chromatography markets. With our breadth of products and depth of knowledge, Kimble offers everything you need to streamline your workflow and simplify everyday life in the lab. From vials and NMR tubes to barcoding services and beakers, we've got you - and your sample - covered from start to finish. Kimble is a global company, having over 900 employees at five sites on three continents, and with over 100 years of manufacturing experience, we bring a world of expertise to your hands.

Discover the time-tested and newly innovated Kimble products within this catalog to simplify your workflow.

The most current and up to date product information is available from our online catalogs. Visit ww.kimblechase.com to see our extensive product line and get detailed descriptions of the items you need.

Technical Service
To dicuss applications or product specific questions, Monday - Friday 8:00 am - 5:00 pm EST
Email: tech@kimble-chase.com

Information Requests
Email: info@kimble-chase.com

For chromatography sample management, Kimble Chase offers chromatography and sample storage vials in various styles, with attached closures, printed volume measurement lines, and closures with multiple cap and liner combinations in a choice of materials. Kimble's chromatography vials are manufactured in USA-based, ISO-9001 compliant facilities.

Clear Autosampler Vials

- Clear glass autosampler vials
- Available in a variety of standard sizes and finishes
- Packed 100 per tray
- Vials with large opening and/or marking spot available
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	Description	Case Qty
331232C	12 x 32	11 mm Crimp	2000
331232CW	12 x 32	11 mm Crimp with marking spot, graduated	2000
331232CL	12 x 32	11 mm Crimp Large Opening	2000
331232CLW	12 x 32	11 mm Crimp Large Opening with Marking Spot	2000
331232S	12 x 32	Screw Thread, 8-425	2000
331232SN	12 x 32	Screw Thread, 9-425	2000
331232SW	12 x 32	Screw Thread, 9-425 w/marking spot, graduated	2000
331232SNW	12 x 32	11 mm Snap Cap Opening with Marking Spot, Graduated	2000
331545S	15 x 45	Screw Thread, 13-425	2000
331545SW	15 x 45	Screw Thread, 13-425, with Marking Spot	2000

Limited Volume Vial Inserts

Inserts are ideal for limited and micro volume applications. Options are available for both standard and wide opening 12x32 autosampler type vials.

- Clear borosilicate glass
- 60850 series has a conical point design, with polymer springs attached; residual volume 1 µL
- 60855 series has a flat bottom design; residual volume 25 µL

Part Number	Capacity (µL)	Type	Case Qty
For 8 mm Standard Opening Vials			
60850-528	150	Conical Point with Spring	100
60855-531	200	Flat Bottom	100
For 9 mm Wide Opening Vials			
60850-629	300	Conical Point with Spring	100
60855-631	400	Flat Bottom	100

NEW!!

Amber Glass Autosampler Vials

- Available in a variety of standard sizes and finishes
- Packed 100 per tray
- Vials with large opening and/or marking spot available
- Closures not included
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	Finish	Case Qty
511232CA	12 x 32	11 mm Crimp	2000
511232CAW	12 x 32	11 mm Crimp w/marking spot	2000
511232CLA	12 x 32	11 mm Crimp Large Opening	2000
511232CLAW	12 x 32	11 mm Crimp Large Opening with Marking Spot	2000
511232SA	12 x 32	Screw Thread, 8-425	2000
511232DPA	12 x 32	Screw Thread, 9-425	2000
511232SAW	12 x 32	Screw Thread, 9-425 w/marking spot, graduated	2000
511232SNAW	12 x 32	11 mm Snap Cap Opening, with Marking Spot, Graduated	2000
511545SA	15 x 45	Screw Thread, 13-425	2000
511545SAW	15 x 45	Screw Thread, 13-425, with Marking Spot	2000

Chrome Vial Instrument Compatibility

** for a more comprehensive listing, please visit our website at www.kimblechase.com*

Catalog #	Agilent	Perkin Elmer	Shimadzu	Varian	Waters
Clear Vials					
331232C	✓	✓	✓	✓	✓
331232CW	✓	✓	✓	✓	✓
331232CL	✓	✓	✓	✓	✓
331232CLW	✓	✓	✓	✓	✓
331232S			✓	✓	✓
331232SN	✓		✓	✓	✓
331232SW	✓		✓	✓	✓
331545S			✓	✓	✓
331545SW			✓	✓	✓
331232SNW	✓	✓	✓	✓	✓
332346B	✓		✓	✓	
332375B	✓				
332375BMB			✓		
332346S		✓		✓	
332375S		✓		✓	
Amber Vials					
511232CA	✓	✓	✓	✓	✓
511232CAW	✓	✓	✓	✓	✓
511232CLA	✓	✓	✓	✓	✓
511232CLAW	✓	✓	✓	✓	✓
511232SA			✓	✓	✓
511232DPA	✓		✓	✓	✓
511232SAW	✓		✓	✓	✓
511545SA			✓	✓	✓
511545SAW			✓	✓	✓
511232SNAW	✓	✓	✓	✓	✓

Crimp Finish Headspace Vials

Clear glass vials with 20 mm crimp seal finish are designed to fit most headspace autosamplers.

- Beveled edge finish features a sturdy rim that presses into the septum for a more effective seal
- Flat or modified top style
- Round bottom vials distribute the internal pressure created at high temperatures across the glass surface and are more easily handled by robotic arms that lift the vial from the tray
- Uniform wall thickness for even heat distribution
- Flat top vials have traditional flat finish on top and bottom to maximize heating efficiency
- Headspace vials meet or exceed OEM specifications
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	Capacity (mL); Style	Case Qty
332346B	23 x 46	10; Modified top	1000
332375	23 x 75	20; Flat top	1000
332375B	23 x 75	20; Modified top	1000
332375BMB	23 x 75	20; Modified top and bottom	1000

Polypropylene Rack for 12 mm and 16 mm OD Vials

- Disposable polypropylene vial rack
- Lettered and numbered for indexing individual tubes
- Corners interlock for convenient stacking

Part Number	Hole Diameter (mm)	Depth (mm)	Case Qty
749210-0012	12	15	10
749210-0016	16	18	10

Screw Thread Headspace Vials

Clear glass vials with 18 mm screw thread finish are designed for consistent use in magnetized autosamplers.

- 18 mm screw thread finish offers superior sealing characteristics
- Designed for use with thinner septa and ensures a consistently flat surface is available for the magnet
- Round bottom vials distribute the internal pressure created at high temperatures across the glass surface and are more easily handled by robotic arms that lift the vial from the tray
- Uniform wall thickness for even heat distribution
- Headspace vials meet or exceed OEM specifications
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	Capacity (mL)	Case Qty
332346S	23 x 46	10	1000
332375S	23 x 75	20	1000

Aluminum Seals with PTFE-Faced Silicone Septa

- Medium durometer PTFE / silicone septum
- Allows for good resealability, core resistance, multiple injections and easy penetration

Part Number	Fits GPI Aluminum Seal Finish	Case Qty
N73824-11	11	100
N73826-11	11	1000
N73824-13	13	100
N73826-13	13	1000
N73823-13	13	144
N73823-20	20	144
N73823T-20	20	100
N73834B-20	20	1,000
N73824T-20	20	100

Magnetic Screw Thread Headspace Vial Caps

Designed to fit 18 mm screw thread headspace vials

- 73880-18 is silver with red PTFE/white silicone press fit septum
- 73885-18 is silver with red PTFE/gray press fit butyl rubber septum

Part Number	PTFE Thickness (mm)	Rubber Thickness (mm)	Case Qty
73880-18	0.08	1.8	1,000
73885-18	0.13	1.4	1,000

Open-Top Polypropylene Screw Thread Caps with Red PTFE-Faced Silicone Septa

- Convenient pre-assembled caps and liners reduces the risk of contamination
- Available with standard or pre-slit septa
- Can be used for multiple injections
- Ideal for use with autosampler vials
- Autoclavable

Part Number	GPI Finish	Septa	Case Qty
73812BK-8425	8-425	standard	1000
73813BK-8425	8-425	pre-slit	1000
73812WH-8425	8-425	standard	1000
73813WH-8425	8-425	pre-slit	1000
73812BK-9425	9-425	standard	1000
73813BK-9425	9-425	pre-slit	1000
73812BL-9425	9-425	standard	1000
73813BL-9425	9-425	pre-slit	1000
73812BK-13425	13-425	standard	1000
73813BK-13425	13-425	pre-slit	1000
73812WH-13425	13-425	standard	1000
73813WH-13425	13-425	pre-slit	1000

Open Top Polypropylene Screw Thread Caps with Bonded White PTFE Septa

- Standard (no slit) septa

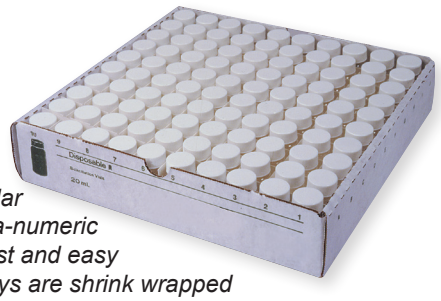
Part Number	GPI Finish	Case Qty
73814WH-8425	8-425	1000
73814BL-9425	9-425	1000
73814BK-13425	13-425	1000

20 mL Glass Scintillation Vials with Attached Caps

Glass 20mL scintillation vials with attached caps. Vials packaged in cellular trays which have alphanumeric coordinates for fast, easy identification.

- 28 mm OD; 57 mm height
- The wider opening of the 24 mm cap vials facilitates introduction of large size samples.
- Caps attached
- Choice of cap material and liner
- Each tray contains 100 vials
- Five trays per case, shrink-wrapped to preserve cleanliness
- Vials are manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	GPI Finish	Cap Liner	Case Qty
74500-20	22-400	Cork-backed Foil	500
74501-20	22-400	Polyethylene	500
74504-20	22-400	Pulp-backed Foil	500
74505-20	22-400	Foamed Polyethylene	500
74516-20	22-400	Cone-shaped Polyethylene	500
74508-20	24-400	Polyethylene	500
74509-20	24-400	Metal Foil	500
74502-20	24-400	Foamed Polyethylene	500
74507-20	24-400	Metal Foil	500



Scintillation *vials are packaged in cellular trays having alpha-numeric coordinates for fast and easy identification. Trays are shrink wrapped to preserve cleanliness. Each tray contains 100 vials, five trays per case.*

20 mL Glass Scintillation Vials with Unattached Caps

Vials are packaged in cellular trays which have alphanumeric coordinates for fast, easy identification.

- 28 mm OD; 57 mm height
- The wider opening of the 24 mm cap vials facilitates introduction of large size samples.
- Closures packed separately in polyethylene bags of 100 pieces
- Each cellular tray contains 100 vials and has alphanumeric coordinates for fast, easy identification
- Five trays per case, shrink-wrapped to preserve cleanliness
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	GPI Finish	Cap Liner	Case Qty
74510-20	22-400	Cork-backed Foil	500
74511-20	22-400	linerless	500
74512-20	22-400	Pulp-backed Foil	500
74513-20	22-400	Foamed Polyethylene	500
74515-20	22-400	Cone-shaped Polyethylene	500
74514-20	24-400	Foamed Polyethylene	500
74517-20	24-400	Metal Foil	500
74503-20	24-400	Cork-backed Foil	500

20 mL Glass Scintillation Vials without Caps

20mL glass scintillation vials without caps. Vials are packaged in cellular trays which have alphanumeric coordinates for fast, easy identification.

- 28 mm OD; 57 mm height
- Closures packed separately in polyethylene bags of 100 pieces
- Each cellular tray contains 100 vials and has alphanumeric coordinates for fast, easy identification
- Five trays per case, shrink-wrapped to preserve cleanliness
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	GPI Finish	Case Qty
74506-20	22-400	500

20 mL Polyethylene Scintillation Vials with Attached Caps

Polyethylene 20mL scintillation vials with attached caps. Vials are packaged in cellular trays which have alphanumeric coordinates for fast, easy identification.

- 28 mm OD; 57 mm height
- Caps attached
- Choice of cap material and liner
- Each cellular tray contains 100 vials
- Five trays per case, shrink-wrapped to preserve cleanliness
- Vials are manufactured from high density polyethylene

Part Number	GPI Finish	Cap Liner	Case Qty
58500-20	22-400	Cork-backed Foil	500
58504-20	22-400	Pulp-backed Foil	500

20 mL Polyethylene Scintillation Vials with Unattached Caps (500/case)

Polyethylene 20mL scintillation vials with unattached caps.

- 28 mm OD; 57 mm height
- 20 mL vials with 22-400 caps
- Choice of cap material and liner
- Vials in cases of 500 are packaged in cellular trays which have alphanumeric coordinates for fast, easy identification.
- Each cellular tray contains 100 vials; five trays per case, shrink-wrapped to preserve cleanliness
- Vials in cases of 1000 are packed in polyethylene bags of 1000 pieces each
- Closures are packed separately in PE bags
- Vials are manufactured from high density polyethylene

Part Number	Cap Liner	Cap Material	Case Qty
58510-20	Cork-backed Foil	Urea	500
58511-20	Foamed Polyethylene	Polypropylene	500
58512-20	Pulp-backed Foil	Polypropylene	500
58515-20	Cone-shaped Poly-ethylene	Urea	500
58501-20	Pulp-backed Foil	Polypropylene	1,000
58510B-20	Cork-backed Foil	Urea	1,000
58511B-20	Foamed Polypropyl-ene	Polypropylene	1,000

7 mL Glass Scintillation Vials with Unattached Caps

These glass SOLVENT SAVER® vials are dimensionally smaller than conventional scintillation vials, permitting a reduction in the amount of solvent required.

- Trays are shrink-wrapped to preserve cleanliness
- Choice of cap material and liner
- Dimensions with closures attached are 17 mm x 57 mm
- Vials are packaged in cellular trays of 200
- Closures are packed in polyethylene bags of 200 pieces in a separate tray of 1000 pieces
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	GPI Finish	Cap Liner	Case Qty
74502-7	15-425	Cork-backed Foil	1,000
74503-7	15-425	Pulp-backed Foil	1,000

4 mL Polyethylene Scintillation Shell Vials with Snap-On Caps

These SOLVENT SAVER® vials are designed for beta and gamma counting.

- Dimensionally smaller than conventional scintillation vials, permitting a reduction in the amount of solvent required
- Polyethylene shell vials and linerless polyethylene snap-on closures are packed separately, 1000 per polyethylene bag

Part Number	Overall OD (mm)	Height with Cap (mm)	Case Qty
58552-4	14	56	1,000

7 mL Polyethylene Scintillation Vials with Unattached Caps

Our most economical SOLVENT SAVER® offering.

- 58502-7 is sold in trays; shrink-wrapped trays contain 250 vials each, four trays per case; closures are packaged in polyethylene bags
- 58503-7 is sold in KIM-BULK™ packs; vials and closures are packed separately, 1000 per polyethylene bag
- Dimensions with closures attached are 17 mm x 57 mm
- Vials are manufactured from high density polyethylene

Part Number	Cap Size (mm)	Cap Material	Case Qty
58502-7	15	Polyethylene	1,000
58503-7	15	Polyethylene	1,000

White Polyethylene Closures without Liners

- Closure is made from white polyethylene and is linerless
- Top is suitable for marking
- Closure is not autoclavable
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74522-22400	22-400	1,000

White Urea Closures with Cone-Shaped Liners

- Cap is made from white urea and has a polyethylene cone-shaped liner
- Top is suitable for marking
- Closure is not autoclavable
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74525-22400	22-400	1,000

White Polypropylene Closures with Pulp-Backed Aluminum Foil Liners

- Closure is made from white polypropylene and has a pulp-backed aluminum foil liner
- Top is suitable for marking
- Suitable for use with various strong oxidizing agent mixtures
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74521-15425	15-425	1,000
74521-22400	22-400	1,000

White Urea Closure with Cork-Backed Aluminum Foil Liners

- Closure is made from white urea and features a cork-backed aluminum foil liner
- Top is suitable for marking
- Ideal for scintillation vials
- Closure is not autoclavable

Part Number	GPI Finish	Case Qty
74520-15425	15-425	1,000
74520-22400	22-400	1,000

White Urea Closures with PTFE-Faced White Rubber Liners

- Closure is made from white urea and features a foam-backed F-217 PTFE liner
- Liner resists attack from virtually all chemicals at room temperature
- Perfect for long term sample storage
- Provides excellent resilience for a tight seal
- Top is suitable for marking
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74526-22400	22-400	500

ACCUFORM® SSR™ Shoulderless, Straight-Sided Vials

Kimble® ACCUFORM® SSR™ shoulderless, straight-sided vials are designed to facilitate reliable storage, retrieval, analysis and delivery of valuable liquid or powder samples.

- Feature a wider opening for ease of access to the contents
- Engineered for consistently high performance in laboratory automation equipment
- Smooth, conical interior surfaces facilitate complete sample recovery
- Less than 10 microliters of dead space
- Ideal for high-throughput screening
- Smooth exterior bottoms are perfect for 2D barcoding
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60690-12	13 x 39	15-425; 2	1,000
60690-1	15 x 45	18-400; 4	1,000
60690-2	18 x 60	20-400; 7	1,000
60690-4	21 x 70	24-400; 15	1,000

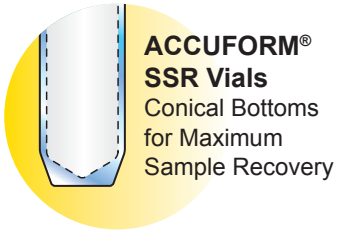
ACCUFORM® SSR™ Standard Vials

Kimble® ACCUFORM® SSR™ vials are designed to facilitate reliable storage, retrieval, analysis and delivery of valuable liquid or powder samples.

- Engineered for consistently high performance in laboratory automation equipment
- Smooth, conical interior surfaces facilitate complete sample recovery
- Less than 10 microliters of dead space
- Ideal for high-throughput screening
- Smooth exterior bottoms are perfect for 2D barcoding
- 60685-1232 has a crimp-style finish
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

NEW!!!
60680-1232
60685-1232

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60685-1232	12 x 32	11mm; 1.5	100
60680-1232	12 x 32	9-425; 1.5	100
60680-12	13 x 39	13-425; 2	1,000
60680-1	15 x 45	13-425; 4	1,000
60680-2	18 x 60	15-425; 7	1,000
60680-4	21 x 70	18-400; 15	1,000



Mininert® Valves for ACCUFORM® Vials

This Mininert® valve is excellent for sealed tube reactions, long term storage of standards or periodic addition of reactants.

- A push-pull, color-coded, green-for-open, red-for-closed position valve for easy use and long lasting performance
- Contents are accessible with a syringe needle
- Septum seal prevents leakage when using a syringe
- Vial not supplied
- Mininert® is a registered trademark of Dynatech

Part Number	Modified GPI Thread	Fits ACCUFORM® Vials (mL)	Case Qty
749110-0021	13-425	0.3, 1	1
749110-0022	20-400	2, 3, 5	1

Ungraduated ACCUFORM® Aluminum Seal Micro-Vials without Closures

ACCUFORM® micro-vials have a V-shaped interior to enable recovery of a minute residual sample by means of a syringe needle.

- Designed for an aluminum seal
- Ungraduated
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	A/S Finish (mm); Capacity (mL)	Case Qty
60730-310	14 x 36	13; 0.3	12

Graduated ACCUFORM® Aluminum Seal Vials without Closures

ACCUFORM® micro-vials have a V-shaped interior to enable recovery of a minute residual sample by means of a syringe needle.

- Designed for an aluminum seal
- Graduated
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	A/S Finish (mm); Capacity (mL)	Case Qty
60720-1	14 x 49	13; 1	12
60720-2	21 x 40	20; 2	12
60720-3	21 x 51	20; 3	12
60720-5	21 x 62	20; 5	12

Graduated ACCUFORM® Vials with Attached Open Top Closures and PTFE-Faced Silcone Septa

These ACCUFORM® vials are internally contoured for optimal performance with limited samples. Graduated to ensure more accurate measurements and dispensing

- Tapered bases allow for maximum sample recovery
- Open-top closure and PTFE-faced silicone septa, assembled and attached
- Tapered bases allow for maximum sample recovery
- 60700 series is manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements
- 60705 series is manufactured from 51 expansion borosilicate amber glass conforming to USP, Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
Clear			
60700-1	14 x 49	13-425; 1	12
60700-2	21 x 40	20-400; 2	12
60700-3	21 x 51	20-400; 3	12
60700-5	21 x 62	20-400; 5	12
60700-10	25 x 73	24-400; 10	12
Amber			
60705-1	14 x 49	13-425; 1	12
60705-2	21 x 40	20-400; 2	12
60705-3	21 x 51	20-400; 3	12
60705-5	21 x 62	20-400; 5	12

Kimble Custom Glass

CGS is the Custom Glass Shop at Kimble®. Your single source for custom laboratory glassware design and fabrication. Whether you want a slight variation of a standard product or a completely unique design, CGS can do it! In quantities as small as one piece. Our staff of veteran glassblowers will meet your requirements and exceed your expectations.

CGS Capabilities:

- Engineering and design
- Graduating
- Quartz apparatus
- Glass to metal graded seals
- Grinding and polishing (machine or hand)
- Machine shop
- Microscale glassware
- Precision bore tubing
- Glass tooling
- Large-scale systems
- Flasks to 72 liters
- Decorating

Phone: 800.682.6644/E-mail: customglass@kimble-chase.com

Ungraduated ACCUFORM® Vials with Attached Open Top Closures and PTFE-Faced Silcone Septa

ACCUFORM® vials are internally contoured for optimal performance with limited samples.

- Open-top closure with PTFE-faced silicone septa, attached
- Tapered bases allow for maximum sample recovery
- Ungraduated
- 60710 series is manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements
- 60715 series is manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
Clear			
60710-110	12 x 32	8-425; 0.1	12
60710-310	14 x 36	13-425; 0.3	12
60710-1	14 x 49	13-425; 1	12
60710-2	21 x 40	20-400; 2	12
60710-3	21 x 51	20-400; 3	12
60710-5	21 x 62	20-400; 5	12
60710-10	25 x 73	24-400; 10	12
Amber			
60715-110	12 x 32	8-425; 0.1	12
60715-310	14 x 36	13-425; 0.3	12
60715-1	14 x 49	13-425; 1	12
60715-2	21 x 40	20-400; 2	12
60715-3	21 x 51	20-400; 3	12
60715-5	21 x 62	20-400; 5	12

Graduated ACCUFORM® Vials with Attached Solid Top Closures and PTFE-Faced White Rubber Liners

These ACCUFORM® vials are internally contoured for optimal performance with limited samples.

- Graduated to ensure more accurate measurements and dispensing
- Tapered bases allow for maximum sample recovery
- Solid-top closure and PTFE-faced, white rubber liner, assembled and attached
- 60702 series is manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements
- 60707 series is manufactured from 51 expansion borosilicate amber glass conforming to USP, Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
Clear			
60702-1	14 x 49	13-425; 1	12
60702-2	21 x 40	20-400; 2	12
60702-3	21 x 51	20-400; 3	12
60702-5	21 x 62	20-400; 5	12
60702-10	25 x 73	24-400; 10	12
Amber			
60707-1	14 x 49	13-425; 1	12
60707-2	21 x 40	20-400; 2	12
60707-3	21 x 51	20-400; 3	12
60707-5	21 x 62	20-400; 5	12

4 mL Dilution Vials with Attached Closures

This dilution vial is ideal for use in research studies.

- 15 mm OD; 45 mm height
- Marked with blue line at 3 mL
- Fully autoclavable
- Can be stored at low temperatures
- Closed top, black phenolic screw cap with white rubber liner, attached
- Packed in corrugated trays with partitions
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	Capacity (mL)	GPI Finish	Case Qty
60811D-312	4	13-425	144

USP Type I Molded Borosilicate Glass Serum Vials without Closures

Autoclavable Kimble® serum bottles and vials are well-suited for the handling, containment, and storage of a variety of liquids including reagents, culture media, chromatography samples, and more. Ideal for packaging and storage where applications of injectable and parenteral solutions require utmost purity.

- Highly resistant to thermal and mechanical shock as well as chemical attack
- Manufactured from USP Type 1 borosilicate molded glass

Part Number	Body OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
61000G-5	23 x 47	20A; 5	288
61000G-10	25 x 52	20A; 10	288
61000G-20	33 x 59	20A; 20	288
61000G-30	37 x 66	20A; 30	288
61000G-50	43 x 75	20A; 50	288
61000G-60	40 x 90	20A; 60	144
61000G-100	52 x 94	20A; 100	144
61000G-125	54 x 106	20A; 125	144
61000G-200	65 x 114	20A; 200	24

Types of Clear Glass Used in Kimble Vials

33 Expansion Borosilicate and 51 Expansion Borosilicate

33 expansion borosilicate glass has a low coefficient of expansion and the highest resistance to chemical attack. It conforms to USP Type I and ASTM E438, Type I, Class A requirements. This glass meets the requirements of the most current revisions of the European Pharmacopeia and Japanese Pharmacopeia for Type I or hydrolytic glass. The alkali content is low, and it is made without elements of the calcium magnesium and zinc group of heavy metals. The combined total of arsenic and antimony oxides is less than 0.005%.

51 expansion borosilicate possesses the best all-around chemical durability of available commercial glasses. Due to a comparatively low coefficient of expansion, it also possesses good resistance to heat shock. 51 expansion borosilicate glass meets USP Type I and ASTM E438, Type I, Class B requirements. This glass also meets the requirements of the most current revisions of the European Pharmacopeia and Japanese Pharmacopeia for Type I or hydrolytic glass.

Amber Glass Serum Vials without Closures

Autoclavable Kimble® serum vials are ideally suited for the handling, containment and storage of a variety of liquids including reagents, culture media, chromatography samples and more.

- Special design provides extra strength for freeze-drying applications
- Serum vials are lighter in weight than molded bottles, with more closely held tolerances and uniformity of glass
- Special blowback design provides ease of use for lyophillization stoppers
- Autoclavable
- Aluminum seals, stoppers and septa are available separately
- Manufactured from 51 expansion borosilicate amber glass conforming to ASTM E438, Type I requirements

Part Number	OD x Height (mm)	A/S Finish (mm); Capacity (mL)	Case Qty
62413D-2	15 x 40	13; 2	1,440
62421D-5	23 x 47	20; 5	864
62421D-10	25 x 54	20; 10	864
62421D-30	30 x 86	20; 30	576

Serum vials are lighter in weight than molded bottles with more closely held tolerances and uniformity of glass. Enhanced by the most popular GPI aluminum seal finishes, this line offers a variety of choices. Vials and bottles are available in clear and amber borosilicate glasses.

Autoclavable Kimble serum vials and bottles are ideally suited for the handling, containment, and storage of a variety of liquids including reagents, vaccines, blood plasma, culture media, chromatography samples and more. Aluminum seals, stoppers and septa are available separately.

33 Expansion Tubular Borosilicate Glass Serum Vials without Closures

Autoclavable Kimble® serum vials are ideally suited for the handling, containment, and storage of a variety of liquids, including reagents, vaccines, blood plasma, culture media, chromatography samples, and more.

- Special design provides extra strength for freeze-drying applications
- Serum vials are lighter in weight than molded bottles, with more closely held tolerances and uniformity of glass
- Special blowback design provides ease of use for lyophillization stoppers
- Autoclavable
- Aluminum seals, stoppers and septa are available separately
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	A/S Finish (mm); Capacity (mL)	Case Qty
62113D-2	15 x 40	13; 2	1,440
62113U-2	15 x 32	13; 2	4,640
62113U-3	17 x 37	13; 3	3,185
62113D-312	18 x 45	13; 3.5	1,440
62113U-5	21 x 38	13; 5	2,352
62121D-5	23 x 47	20; 5	864
62121U-6	22 x 40	20; 6	1,904
62113U-10	24 x 50	13; 10	1,085
62121U-10	24 x 50	20; 10	1,085
62121D-10	25 x 54	20; 10	864
62121D-20	30 x 57	20; 20	720

33 Expansion Borosilicate Glass Vials with Unattached Black Phenolic Caps and Rubber Liners

- Clear screw thread sample vials
- Closed-top black phenolic closures with rubber liners, unattached
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60812D-12	12 x 35	8-425; 2	200
60940D-12	12 x 35	8-425; 2	2,304
60940D-1	15 x 45	13-425; 4	2,304
60940D-2	17 x 60	15-425; 8	1728
60940D-3	19 x 65	15-425; 12	1,152
60940D-4	21 x 70	18-400; 16	1,152
60940D-6	23 x 85	20-400; 24	864

33 Expansion Borosilicate Glass Vials with Unattached Black Phenolic Caps and PTFE-faced White Rubber Liners

- Screw thread clear glass sample vials
- Supplied with closed-top black phenolic caps with PTFE-faced white rubber liner, unattached
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60812B-1232	12 x 32	8-425; 1.8	200
60812B-12	12 x 35	8-425; 2	200
60812B-1	15 x 45	13-425; 4	200
60812B-2	17 x 60	15-425; 8	200
60812B-3	19 x 65	15-425; 12	200
60812B-4	21 x 70	18-400; 16	200
60812B-6	23 x 85	20-400; 24	200

33 Expansion Borosilicate Glass Vials with Attached White Urea Caps and PTFE-faced White Rubber Liners

- Clear glass sample vials
- Closed-top white urea caps with PTFE-faced white rubber liners, attached
- 60940A-4 complies with EPA 600 series methods
- Packaged in corrugated trays with partitions
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60940A-2	12 x 35	8-425; 2	144
60940A-4	15 x 47	13-425; 4	144
60940A-8	17 x 63	15-425; 8	144
60940A-12	19 x 67	15-425; 12	144
60940A-16	21 x 72	18-400; 16	144
60940A-24	23 x 87	20-400; 24	144

33 Expansion Borosilicate Glass Vials with Attached Black Phenolic Caps and Cone-Shaped Polyethylene Liners

- Clear, screw thread sample vials
- Black phenolic cap and cone-shaped polyethylene liner
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60941A-8	17 x 60	15-425; 8	144
60941A-12	19 x 65	15-425; 12	144
60941A-16	21 x 70	18-400; 16	144
60941A-24	23 x 85	20-400; 24	144
60941A-40	28 x 95	24-400; 40	72

33 Expansion Borosilicate Glass Vials with Attached Black Phenolic Caps and PTFE-faced White Rubber Liners

- Clear glass sample vials
- Packaged in corrugated trays with partitions
- Closed-top black phenolic closures with PTFE-faced white rubber liners, attached
- Small case quantities
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60811B-12	12 x 35	8-425; 2	288
60811B-1	15 x 45	13-425; 4	144
60811B-2	17 x 60	15-425; 8	144
60811B-3	19 x 65	15-425; 12	144
60811B-4	21 x 70	18-400; 16	144
60811B-5	28 x 57	24-400; 20	72
60811B-6	23 x 85	20-400; 24	144
60811B-612	28 x 70	24-400; 25	72
60811B-10	28 x 95	24-400; 40	72

33 Expansion Borosilicate Glass Vials Without Caps

- Clear, screw thread sample vials
- Closures not included
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60812-1232	12 x 32	8-425; 1.8	200
60812-1235	12 x 35	8-425; 2	200
60812-1528	15 x 28	13-425; 2	200
60810-1528	15 x 28	13-425; 2	1,000
60812-1545	15 x 45	13-425; 4	200
60812-1738	17 x 38	15-425; 4	200
60812-1940	19 x 40	15-425; 6	200
60810-1940	19 x 40	15-425; 6	1,000
60812-1760	17 x 60	15-425; 8	200
60810-1760	17 x 60	15-425; 8	1,000
60812-1965	19 x 65	15-425; 12	200
60810-1965	19 x 65	15-425; 12	1,000
60812-2170	21 x 70	18-400; 16	200
60810-2170	21 x 70	18-400; 16	1,000
60812-2857	28 x 57	24-400; 20	200
60812-2385	23 x 85	20-400; 24	200
60810-2385	23 x 85	20-400; 24	1,000
60812-2870	28 x 70	24-400; 25	200
60812-2895	28 x 95	24-400; 40	200

33 Expansion Borosilicate Glass Vials with Attached Black Phenolic Caps and White Rubber Liners

- Clear glass sample vials
- Packaged in corrugated trays with partitions
- Closed-top black phenolic closures with white rubber liners, attached
- Small case quantities
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60811D-12	12 x 35	8-425; 2	288
60811D-1528	15 x 28	13-425; 2	200
60811D-1	15 x 45	13-425; 4	144
60811D-11	15 x 45	13-425; 4	144
60811D-1738	17 x 38	15-425; 4	200
60811D-1940	19 x 40	15-425; 6	200
60811D-2	17 x 60	15-425; 8	144
60811D-3	19 x 65	15-425; 12	144
60811D-4	21 x 70	18-400; 16	144
60811D-5	28 x 57	24-400; 20	72
60811D-6	23 x 85	20-400; 24	144
60811D-612	28 x 70	24-400; 25	72
60811D-10	28 x 95	24-400; 40	72

33 Expansion Borosilicate Glass Vials with Attached White Polypropylene Caps and PTFE-faced Silicone Septa

- Clear glass sample vials
- Open-top white polypropylene closures with PTFE-faced silicone septa, attached
- Packaged in corrugated trays with partitions
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60811S-5	28 x 57	24-400; 20	72
60811S-10	28 x 95	24-400; 40	72

33 Expansion Borosilicate Glass Vials with Attached Black Polypropylene Caps and PTFE-faced Silicone Septa

- Clear glass screw thread sample vial
- Open-top black polypropylene closures with PTFE-faced silicone septa, attached
- Vials packed in corrugated trays with partitions
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60942A-8	17 x 63	15-425; 8	144
60942A-12	19 x 67	15-425; 12	144
60942A-16	21 x 72	18-400; 16	144
60942A-24	23 x 87	20-400; 24	144
60942A-40	28 x 98	24-400; 40	72

51 Expansion Borosilicate Glass Vials Without Caps

- Screw thread sample vials
- Closures not included
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60910-1	15 x 45	13-425; 4	3456
60910-2	17 x 60	15-425; 8	2160
60910-3	19 x 65	15-425; 12	1,728
60910-4	21 x 70	18-400; 16	1,152
60957-1	28 x 57	24-400; 20	720
60910-6	23 x 85	20-400; 24	864
60910-8	25 x 95	22-400; 30	864
60957-4	28 x 108	24-400; 45	432

51 Expansion Borosilicate Glass Vials with Unattached Black Phenolic Caps and Rubber Liners

- Clear, screw thread sample vials
- Closed-top black phenolic closure with polyvinyl-faced rubber liner, unattached
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60910D-1	15 x 45	13-425; 4	2304
60910D-2	17 x 60	15-425; 8	1,728
60910D-3	19 x 65	15-425; 12	1,152
60910D-4	21 x 70	18-400; 16	1,152
60957D-4	28 x 57	24-400; 20	432
60957D-6	28 x 70	24-400; 24	432
60957D-11	28 x 108	24-400; 45	432

51 Expansion Borosilicate Glass Vials with Unattached Black Phenolic Caps and Polyvinyl-faced Pulp Liners

- Clear screw thread sample vials
- Closed-top black phenolic closures with polyvinyl-faced pulp liner (not attached)
- 60910L series vials are packaged in lab packs
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60910C-12	12 x 35	8-425; 2	2,304
60910L-12	12 x 35	8-425; 2	576
60910C-1	15 x 45	13-425; 4	2,304
60910L-1	15 x 45	13-425; 4	576
60910C-112	16 x 50	13-425; 6	2,304
60910C-2	17 x 60	15-425; 8	1,728
60910L-2	17 x 60	15-425; 8	576
60910C-3	19 x 65	15-425; 12	1,152
60957C-4	28 x 57	24-400; 16	432
60910C-4	21 x 70	18-400; 16	1,152
60957C-6	28 x 70	24-400; 24	432
60910C-6	23 x 85	20-400; 25	864
60910C-8	25 x 95	22-400; 30	576
60957C-11	28 x 108	24-400; 45	432

Amber Vials without Caps

- Amber screw thread sample vials
- Closures not included
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60912-1235	12 x 35	8-425; 2	200
60912-1528	15 x 28	13-425; 2	200
60912-1545	15 x 45	13-425; 4	200
60912-1738	17 x 38	15-425; 4	200
60912-1940	19 x 40	15-425; 6	200
60912-1760	17 x 60	15-425; 8	200
60815-1760	17 x 60	15-425; 8	1,000
60815-1965	19 x 65	15-425; 12	1,000
60912-2857	28 x 57	24-400; 20	200
60912-2895	28 x 95	24-400; 40	200

Amber Vials with Unattached Black Phenolic Caps with White Rubber Liners

- Amber glass vials
- Closed-top black phenolic closures with PTFE-faced white rubber liners, unattached
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60912D-12	12 x 35	8-425; 2	200
60912D-1	15 x 45	13-425; 4	200
60920D-1	15 x 45	13-425; 4	2304
60912D-2	17 x 60	15-425; 8	200
60920D-4	21 x 70	18-400; 16	1,152
60920D-8	25 x 95	22-400; 30	576

Amber Vials with Unattached Black Phenolic Caps and PTFE-faced White Rubber Liners

- Amber screw thread vials
- Closed-top black phenolic closures with PTFE-faced white rubber liners, unattached
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60912B-1232	12 x 32	8-425; 1.8	200
60912B-12	12 x 35	8-425; 2	200
60912B-1	15 x 45	13-425; 4	200
60912B-2	17 x 60	15-425; 8	200

Amber Vials with Attached Black Phenolic Caps and White Rubber Liners

- Amber glass vials
- Packaged in corrugated trays with partitions
- Closed top black phenolic closure with white rubber liners, attached
- Manufactured from 51 expansion borosilicate amber glass conforming to UPS Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60911D-12	12 x 35	8-425; 2	288
60911D-1	15 x 45	13-425; 4	144
60911D-2	17 x 60	15-425; 8	144
60911D-5	28 x 57	24-400; 20	72

Competitor Cross Reference

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Amber Vials with Attached Black Phenolic Caps and Cone-Shaped Polyethylene Liners

- Amber glass screw thread sample vials
- Packaged in corrugated trays with partitions
- Closed-top black phenolic closures with cone-shaped polyethylene liners, attached
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60951A-4	15 x 45	13-425; 4	144
60951A-8	17 x 60	15-425; 8	144
60951A-12	19 x 65	15-425; 12	144

Amber Vials with Attached Black Phenolic Caps and PTFE-faced White Rubber Liners

- Amber glass vials
- Packaged in corrugated trays with partitions
- Closed-top black phenolic closures with PTFE-faced white rubber liners, attached
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60911B-12	12 x 35	8-425; 2	288
60911B-1528	15 x 28	13-425; 2	200
60911B-1	15 x 45	13-425; 4	144
60911B-1738	17 x 38	15-425; 4	200
60911B-1940	19 x 40	15-425; 6	200
60911B-2	17 x 60	15-425; 8	144
60911B-5	28 x 57	24-400; 20	72
60911B-10	28 x 95	24-400; 40	72

Amber Vials with Attached Open-Top Caps

- Amber screw thread sample vials
- Open-top white polypropylene closures with PTFE-faced silicone septa attached
- Vials packaged in corrugated trays with partitions
- 60911P features 0.005" PTFE-faced septa on 0.120" silicone liner
- 60911S features 0.0055" PTFE-faced septa on 0.06" silicone liner
- Manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60911S-5	28 x 57	24-400; 20	72
60911S-10	28 x 95	24-400; 40	72
60911P-10	28 x 95	24-400; 40	72

Value Added Services Also Available - Just Ask!

- Custom vials to exact specifications in clear 33 borosilicate or amber 51 expansion borosilicate glass
- Positive ID with ceramic and adhesive label barcodes with a range of symbologies including codes 39, 128, I 2 of 5 and 2D data matrix
- Barcoding and tare weighing
- Pre-weighed vials with supporting documentation
- Caps and liners

EPA Water Analysis Vials with Closures

These clear screw thread EPA vials for the collection and storage of water samples comply with the guidelines for establishing test procedures for the analysis of pollutants (Ref. EPA Methods 601, 602, 603 and 604).

- 60961B series has open-top, white polypropylene, screw thread closures with PTFE-faced 14B white rubber septa attached
- 60961C series has open-top, white polypropylene, screw thread closures with PTFE-faced (0.005") silicone rubber (0.120") septa attached
- While vials are not "pre-cleaned," they are packaged in a plastic shrink wrap module, lehr-clean, as they come from the end of the production lehr and then are placed into a corrugated shelf-pack
- Manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
60961B-4	28 x 57	24-400; 20	432
60961C-4	28 x 60	24-400; 20	432
60961C-6	28 x 73	24-400; 30	432
60961B-912	28 x 98	24-400; 40	432
60961C-912	28 x 98	24-400; 40	432

EPA 40 CFR 136 "Guidelines for Establishing Test Procedures for the Analysis of Pollutants" and EPA 40 CFR 141 "National Interim Primary Drinking Water Regulations; Control of Trihalomethanes in Drinking Water" recommends the use of 28 x 95 mm vial (60958A-912 or 60960A-912) for discrete water sampling. Kimble® also offers the specified open-top closures (73804-24400 and 73806A-24400) as well as the PTFE-faced silicone rubber septum (73818A-24).

EPA Water Analysis Vials without Closures

These clear and amber screw thread EPA vials for the collection and storage of water samples comply with the guidelines for establishing test procedures for the analysis of pollutants (Ref. EPA Methods 601, 602, 603 and 604).

- Open-top closures and PTFE-faced silicone septa or solid-top PFTE-faced white rubber-lined closures are available separately
- While vials are not "pre-cleaned," they are packaged in a plastic shrink wrap module, lehr-clean, as they come from the end of the production lehr and then are placed into a corrugated shelf-pack
- Amber EPA vials are manufactured from 51 expansion borosilicate amber glass conforming to ASTM E438, Type I requirements
- Clear EPA vials are manufactured from 33 expansion, low extractable borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class A requirements

Part Number	OD x Height (mm)	GPI Finish; Capacity (mL)	Case Qty
Clear			
60958A-4	28 x 57	24-400; 20	432
60958A-6	28 x 70	24-400; 30	432
60958A-912	28 x 95	24-400; 40	432
60958A-11	28 x 108	24-400; 45	432
60958A-16	30 x 123	24-400; 60	432
Amber			
60960A-4	28 x 57	24-400; 20	432
60960A-912	28 x 95	24-400; 40	432

Please Note: All caps / liners should be tested to ensure leak and compatibility performance with contents.

Cap Selection Chart for EPA Water Analysis Vials

	Cap Type	Liner Type	Properties	Catalog Number	Case Qty.
	Solid top phenolic cap with GPI 24-400 threads	**PTFE-faced white rubber**	• Autoclavable • Excellent sealing ability	**73802-24400**	**144**
	Open top phenolic cap with GPI 24-400 threads	**Unlined**	• Autoclavable • Excellent sealing ability	**73804-24400**	**144**
	Solid top polypropylene cap with GPI 24-400 threads	**Welded PTFE / silicone liner**	• Ideal for repeated autoclaving • Welded liner eliminates possibility of glue contamination	**73808-24400**	**72**
	Solid top phenolic cap with GPI 24-400 threads	**Tinfoil** laminated to paper and bonded to 0.035" pulpboard	• Good barrier • Good resistance to alcohols, hydrocarbons, ketones, oils • Not recommended for acids and alkalis	**75203G-24400**	**144**
	Solid top phenolic cap with GPI 24-400 threads	**White rubber** 0.050" homogenous white rubber	• Hermetic sealing • Resistant to moisture vapor • Chemical barrier • Autoclavable	**75204G-24400**	**144**
	Solid top phenolic cap with GPI 24-400 threads	**Taperseal (cone-shaped)** LDPE	• Excellent sealing ability • Stress crack resistant • Excellent torque retention	**75205G-24400**	**144**
	Solid top phenolic cap with GPI 24-400 threads	**PTFE-faced LDPE foam** 0.005" PTFE 0.050" LDPE foam	• Excellent chemical resistance • Compressible foam for sealability • Poor for organic amines	**75206G-24400**	**144**

51 Expansion Glass Tooled Vials with Unattached Polyethylene Closures

Tooled neck OPTICLEAR™ vials are excellent for packaging drug products.

- Necks are tooled for an accurate fit with polyethylene closures
- Vials and closures are supplied in both the pack and case quantities
- Supplied with closed-bottom, two-piece closures
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Height (mm)	Capacity (mL)	Case Qty
60975L-1	15 x 45	4	864
60975L-3	21 x 50	12	432
60975L-4	25 x 52	16	288
60975L-5	27 x 55	20	216

51 Expansion Glass Shell Vials with Plug Style Needle Closures

These shell vials are ideal for chromatography applications.

- White polyethylene plug style needle closures, unattached
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements
- 60835D-1544 is manufactured from 51 expansion borosilicate amber glass conforming to USP Type I requirements

Part Number	OD x Height (mm)	Capacity (mL)	Case Qty
60831D-830	8 x 30	0.75	2,000
60831D-843	8 x 43	1	2,000
60831D-1231	12 x 31	2	2,000
60831D-1544	15 x 44	4	2,000
60835D-1544	15 x 44	4	2,000

51 Expansion Short Style Glass Shell Vials without Closures

Short-style shell vials are ideal for storing dry products.

- Plain top design
- 74400-2040 vials are for use as sample containers during dilution and titration procedures of chloride determinations
- Lab pack quantities
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Height (mm)	Capacity (mL)	Case Qty
60931-14	9 x 30	1	1,440
60931-12	12 x 35	2	1,440
60931-1	15 x 45	4	1,440
60931-2	17 x 60	8	864
74400-2040	20 x 40	10	500
60931-4	21 x 70	16	576
60965-4	24 x 62	16	576
60931-6	23 x 85	24	576
60931-8	25 x 95	30	576

51 Expansion Glass Shell Vials with Plug Style Closures

- TITESEAL® vials
- Plain tops
- Open-bottom plug style plastic closures, unattached
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Height (mm)	Capacity (mL)	Case Qty
60965D-12	12 x 35	2	2,304
60965D-1	15 x 45	4	2,304
60965D-3	19 x 65	12	1,152
60965D-7	29 x 65	26	432
60965D-120	29 x 94	44	432

SUGGESTED SCREW CAP APPLICATION TORQUE

Cap Size (Millimeters)	Torque (Inch-Pounds)	Cap Size (Millimeters)	Torque (Inch-Pounds)
8	3-5	38	15-23
10	4-6	43	17-26
13	5-7	48	19-29
15	6-9	53	21-32
18	7-11	58	23-35
20	8-12	63	25-38
22	9-13	70	28-42
24	10-15	83	34-49
28	11-17	89	36-53
33	13-20	120	48-72

The figures at left are offered as guidelines for automatic capping machines. Obviously, variables such as cap and liner material and product characteristics play an important part in correct torque application.

The recommended procedure for checking capping machine torque application is as follows:

Apply caps to a representative number of product filled containers with the torque required. Then, the cap removal torque is established. Once the removal torque for a known application is established, the machine can be checked at intervals for proper application torque by measuring removal cap torque.

Liner Technical Information		
Liner Description	**Application**	**Properties**
Pulp / vinyl Polyvinyl film adhered to 0.035" pulpboard	General purpose	• Good chemical resistance to mild acids, alkalis, alcohols, aqueous solutions, oils and solvents • Not recommended for hydrocarbons or bleaches
Tinfoil Foil laminated to paper and bonded to 0.035" pulpboard	General purpose Environmental sampling	• Good barrier • Good resistance to alcohols, hydrocarbons, ketones, oils • Not recommended for acids and alkalis
Solid PE 0.040" polyethylene	General purpose	• Good resistance to acids, alcohols, alkalis, aqueous solutions, oils, solvents • Not recommended for hydrocarbon solvents
PTFE-faced LDPE foam 0.005" PTFE 0.050" LDPE foam	General purpose	• Excellent chemical resistance • Compressible foam for sealability • Poor for organic amines
White rubber 0.050" homogenous white rubber	Hermetic sealing for biologicals and other contents requiring sterilization	• Resistant to moisture vapor • Chemical barrier • Autoclavable
Taperseal (cone-shaped) LDPE	Commonly used for liquids, seal is made across the top and the inside diameter of the container	• Excellent sealing ability • Stress crack resistant • Excellent torque retention
Please Note: All caps / liners should be tested to ensure leak and compatibility performance with contents.		

White Polyethylene Closures without Liners

- Closure is made from white polyethylene and is linerless
- Top is suitable for marking
- Closure is not autoclavable
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74522-22400	22-400	1,000

White Urea Closures with Cone-Shaped Liners

- Cap is made from white urea and has a polyethylene cone-shaped liner
- Top is suitable for marking
- Closure is not autoclavable
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74525-22400	22-400	1,000

White Urea Closure with Cork-Backed Aluminum Foil Liners

- Closure is made from white urea and features a cork-backed aluminum foil liner
- Top is suitable for marking
- Ideal for scintillation vials
- Closure is not autoclavable

Part Number	GPI Finish	Case Qty
74520-15425	15-425	1,000
74520-22400	22-400	1,000

White Polypropylene Closures with Pulp-Backed Aluminum Foil Liners

- Closure is made from white polypropylene and has a pulp-backed aluminum foil liner
- Top is suitable for marking
- Suitable for use with various strong oxidizing agent mixtures
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74521-15425	15-425	1,000
74521-22400	22-400	1,000

White Urea Closures with PTFE-Faced White Rubber Liners

- Closure is made from white urea and features a foam-backed F-217 PTFE liner
- Liner resists attack from virtually all chemicals at room temperature
- Perfect for long term sample storage
- Provides excellent resilience for a tight seal
- Top is suitable for marking
- Ideal for scintillation vials

Part Number	GPI Finish	Case Qty
74526-22400	22-400	500

Magnetic Screw Thread Headspace Vial Caps

Designed to fit 18 mm screw thread headspace vials

- 73880-18 is silver with red PTFE/white silicone press fit septum
- 73885-18 is silver with red PTFE/gray press fit butyl rubber septum

Part Number	PTFE Thickness (mm)	Rubber Thickness (mm)	Case Qty
73880-18	0.08	1.8	1,000
73885-18	0.13	1.4	1,000

Open Top Polypropylene Screw Thread Caps with Bonded White PTFE Septa

- Standard (no slit) septa

Part Number	GPI Finish	Case Qty
73814WH-8425	8-425	1000
73814BL-9425	9-425	1000
73814BK-13425	13-425	1000

Closed Top Linerless Polypropylene Screw Thread Caps

- Economical, one-piece construction in natural or white
- Unique design provides exceptional sealing properties
- Autoclavable
- Designed from ASTM Specification E982

Part Number	GPI Finish	Color	Case Qty
73805B-13415	13-415	Natural	1,000
2513415	13-415	Natural	12000
2513415-B	13-415	Black	12000
73805-15415	15-415	White	1,000
73805B-15415	15-415	Natural	1,000
2515415	15-415	Natural	7000
2515415-B	15-415	Black	7000
73805B-18415	18-415	Natural	500
2518415	18-415	Natural	5000
2518415-B	18-415	Black	5000

Closed Top Polypropylene Screw Thread Caps with Welded PTFE-Faced Silicone Liners

- Welded liner technology eliminates the possibility of glue contamination
- PTFE-faced/general purpose white rubber liners are highly resistant to chemical effects
- Closures are ideal for repeated autoclaving

Part Number	GPI Finish	Case Qty
73808-13415	13-415	288
73808-15415	15-415	288
73808-18415	18-415	288
73808-24400	24-400	72
73808-24410	24-410	144
73808-28400	28-400	48
73808-28410	28-410	36
73808-33430	33-430	48
73808-38430	38-430	48

Open-Top Polypropylene Screw Thread Caps with Red PTFE-Faced Silicone Septa

- Convenient pre-assembled caps and liners reduces the risk of contamination
- Available with standard or pre-slit septa
- Can be used for multiple injections
- Ideal for use with autosampler vials
- Autoclavable

Part Number	GPI Finish	Septa	Case Qty
73812BK-8425	8-425	standard	1000
73813BK-8425	8-425	pre-slit	1000
73812WH-8425	8-425	standard	1000
73813WH-8425	8-425	pre-slit	1000
73812BK-9425	9-425	standard	1000
73813BK-9425	9-425	pre-slit	1000
73812BL-9425	9-425	standard	1000
73813BL-9425	9-425	pre-slit	1000
73812BK-13425	13-425	standard	1000
73813BK-13425	13-425	pre-slit	1000
73812WH-13425	13-425	standard	1000
73813WH-13425	13-425	pre-slit	1000

Open-Top Polypropylene Screw Thread Caps Without Septa

- Economical, one-piece construction
- Autoclavable
- 73806A-24400 is white; all others are black

Part Number	GPI Finish	Hole ID (mm)	Case Qty
73806A-15425	15-425	8.7	1,000
73806A-18400	18-400	12	1,000
73806A-20400	20-400	12	1,000
73806-24400	24-400	14	1,000
73806A-24400	24-400	14	144

Open Top Phenolic Screw Thread Caps without Liners

- Open top closures with excellent chemical resistance
- Specially formulated phenolic resin to withstand the effects of repeated autoclaving
- Linerless
- Identified in ASTM Specification E982, Class A requirements

Part Number	GPI Finish	Hole ID (mm)	Case Qty
73804-15425	15-425	8.7	144
73804-18400	18-400	12	144
73804-20400	20-400	12	144
73804-24400	24-400	14	144

Phenolic Screw Thread Caps with Pulp/Vinyl Liners

- Economical general purpose cap/liner combination
- Good chemical resistance to mild acids, alkalis, alcohols, aqueous solutions, oils and solvents
- Not autoclavable
- Specially formulated phenolic cap material
- Polyvinyl-faced pulpboard liner

Part Number	GPI Finish	Case Qty
75201G-20400	20-400	144
75201G-22400	22-400	144
75201G-24400	24-400	144

Phenolic Screw Thread Caps with PTFE-Faced Rubber Liners

- Excellent for general laboratory use
- Specially formulated phenolic resin and liner adhesive to withstand the effects of repeated autoclaving
- PTFE-faced/general purpose white rubber liners are highly resistant to chemical effects
- Identified in ASTM Specification E982, Class A requirements

Part Number	GPI Finish	Case Qty
73802-8425	8-425	144
45066C-13	13-415	300
73802-13415	13-415	500
45066C-15	15-415	300
73802-15415	15-415	500
73802-15425	15-425	144
73802-18400	18-400	144
45066C-18	18-415	225
73802-20400	20-400	144
73802-22400	22-400	144
73802-24400	24-400	144
45066C-24	24-410	150
45066C-28	28-410	150
73802-33430	33-430	144
45066C-38	38-430	50
73802-38430	38-430	144

Phenolic Screw Thread Caps with Cemented-In Rubber Liners

- Specially formulated phenolic cap material
- Autoclavable
- White rubber liners
- Excellent for general laboratory use
- Identified in ASTM Specification E982, Class A requirements

Part Number	GPI Finish	Case Qty
45066B-13	13-415	300
73800-13415	13-415	1,000
45066B-15	15-415	300
73800-15415	15-415	1,000
45066B-18	18-415	225
73800-18415	18-415	1,000
75204G-20400	20-400	144
75204G-22400	22-400	144
75204G-24400	24-400	144
45066B-24	24-410	150
75204G-28400	28-400	144
14255-28	28-400	150
73803-38430	38-430	144
45066B-28	28-410	150
75204G-38400	38-400	144
73803-33430	33-430	144
45066B-38	38-430	150
75204G-33400	33-400	144
75204G-43400	43-400	144
75204G-45400	45-400	144
75204G-48400	48-400	144
75204G-53400	53-400	144
75204G-58400	58-400	144
75204G-63400	63-400	144
75204G-70400	70-400	144
75204G-89400	89-400	144

Black Phenolic Screw Thread Caps with Cone-Shaped LDPE Liners

Black phenolic cap has a securely mounted LDPE cone-shaped liner which offers a two part seal. The closure forms a seal around the rim and the polyseal cone forms a seal against the inner diameter of the vial opening.

- Specially formulated phenolic resin to withstand the effects of repeated autoclaving
- Designed for superior torque retention
- Stress crack resistant
- Excellent for sample storage and re-sealing

Part Number	GPI Finish	Case Qty
73809-13425	13-425	144
73809-15425	15-425	144
73809-18400	18-400	144
73809-20400	20-400	144
73809-22400	22-400	144
75205-20400	20-400	5,500
75205-22400	22-400	4,700
75205-24400	24-400	4,200
75205-28400	28-400	3,100
75205-33400	33-400	2,300
75205-38400	38-400	1,600
75205G-20400	20-400	144
75205G-22400	22-400	144
75205G-24400	24-400	144
75205G-28400	28-400	144
75205G-33400	33-400	144
75205G-38400	38-400	144

Phenolic Caps with PTFE-Faced Rubber Liners

- Excellent for general laboratory use
- Specially formulated phenolic resin and liner adhesive to withstand the effects of repeated autoclaving
- PTFE faced/general purpose white rubber liners are highly resistant to chemical effects
- Identified in ASTM Specification E982, Class A requirements

Part Number	GPI Finish	Case Qty
73802-8425	8-425	144
73802-13415	13-415	500
45066C-13	13-415	300
73802-13425	13-425	144
45066C-15	15-415	300
73802-15415	15-415	500
73802-15425	15-425	144
73802-18400	18-400	144
45066C-18	18-415	225
73802-20400	20-400	144
73802-24400	24-400	144
45066C-24	24-410	150
45066C-28	28-410	150
73802-33430	33-430	144
45066C-38	38-430	50
73802-38430	38-430	144

White Polyethylene Plug-Style Needle Closures

- Designed for shell vials
- Economical

Part Number	Fits Vials	Case Qty
73835-1	60831D-1544, 60835D-1544	2,000
73835-2	60831D-1231	2,000
73835-3	60831D-830, 60831D-843, 60835D-843	2,000

White Urea Screw Thread Caps with PTFE-Faced Foam-Backed Rubber Liners

- White urea
- PTFE-faced foam-backed rubber liner
- Ideal for use with scintillation vials

Part Number	GPI Finish	Case Qty
73802U-8425	8-425	432
73802U-13425	13-425	432
73802U-15425	15-425	432
73802U-18400	18-400	432
73802U-20400	20-400	432
73802U-24400	24-400	432

Gray Chlorobutyl Straight-Sided Stoppers

These high quality gray chlorobutyl stoppers are used for research and pharmaceutical packaging applications.

- Universal gray chlorobutyl formulation passes Japanese, European and United States pharmacopeia testing for globally marketed pharmaceutical products
- Formulation contains no plasticizers, 2-mercapto-benzothaizole, nitrosamine precursors or natural rubber latex
- Formulation is applicable to aqueous solutions with a pH range of 2 to 10
- 73811T series has PTFE facing to improve chemical compatibility and minimize surface interactions
- Durometer 50

Part Number	Fits GPI Aluminum Seal Finish	Case Qty
73811-13	13	1,000
73811-21	20	1,000
73811T-13	13	100
73811T-21	20	100

Gray Butyl Rubber Lypholization Style Stoppers

- Designed for aluminum seal finish vials
- Two-leg style reduces possibility of legs sticking together
- Gray high grade butyl rubber, lyophilization style

Part Number	Fits GPI Alumi-num Seal Finish	Number of Legs	Case Qty
73828-13	13	2	1,000
73828A-21	20	2	1,000

Gray Butyl Rubber Stoppers

- Designed for aluminum seal finish vials
- Economical alternative for low temperature applications
- Gray butyl rubber

Part Number	Fits GPI Aluminum Seal Finish	Case Qty
73827-11	11	1,000
73827-13	13	1,000
73827-21	21	1,000

Open Style Unlined One Piece Aluminum Seals

- Fits GPI aluminum seal finish 13 and 20
- Allows easy access to septa (not included)

Part Number	Fits GPI Alumi-num Seal Finish	Color	Case Qty
73822A-13	13	Natural	1,000
73822B-13	13	Blue	1,000
73822C-13	13	Red	1,000
73822D-13	13	Green	1,000
73822B-20	20	Blue	1,000
73822C-20	20	Red	1,000
73822D-20	20	Green	1,000
N73822A-20	20	Natural	1,000

Tear-Out Style Unlined One Piece Aluminum Seals

- Center disc tears out, leaving the outside edge of the aluminum seal firmly crimped on the container
- Allows for easy access to septa

Part Number	Fits GPI Alumi-num Seal Finish	Color	Case Qty
73820-13	13	Natural	1,000
73820B-13	13	Blue	1,000
73820C-13	13	Red	1,000
73820D-13	13	Green	1,000
73820-20	20 or 20A	Natural	1,000
73820B-20	20	Blue	1,000
73820C-20	20	Red	1,000
73820D-20	20	Green	1,000

Tear-Off Style Unlined One Piece Aluminum Seals

- Tear-off style seal can be completely removed from vial or bottle
- Allows for easy access to vial contents

Part Number	Fits GPI Alumi-num Seal Finish	Color	Case Qty
73821-13	13	Natural	1,000
73821C-13	13	Red	1,000
73821D-13	13	Green	1,000
73821-20	20	Natural	1,000
73821B-20	20	Blue	1,000
73821C-20	20	Red	1,000
73821D-20	20	Green	1,000

Aluminum Seals with PTFE-Faced Silicone Septa

- Medium durometer PTFE / silicone septum
- Allows for good resealability, core resistance, multiple injections and easy penetration

Part Number	Fits GPI Aluminum Seal Finish	Case Qty
N73824-11	11	100
N73826-11	11	1000
N73824-13	13	100
N73826-13	13	1000
N73823-13	13	144
N73823-20	20	144
N73823T-20	20	100
N73834B-20	20	1,000
N73824T-20	20	100

Button-Top Unlined Aluminum Seals

Safe and easy-to-use flip off seals allow one-handed operation.

- Autoclavable
- Tamper evident
- No sharp metal edges

Part Number	Fits GPI Aluminum Seal Finish	Color	Case Qty
Flip-Off			
73843A-13	13	White	1,000
73843B-13	13	Blue	1,000
73843C-13	13	Red	1,000
73843D-13	13	Green	1,000
73843A-20	20	White	1,000
73843B-20	20	Blue	1,000
73843C-20	20	Red	1,000
73843D-20	20	Green	1,000
Flip-Up/Tear-Off			
73844A-13	13	White	1,000
73844B-13	13	Blue	1,000
73844C-13	13	Red	1,000
Flip-Off/Tear-Off			
73845A-20	20	White	1,000
73845B-20	20	Blue	1,000
73845C-20	20	Red	1,000
73845D-20	20	Green	1,000

Crimper

Manual hand crimper for aluminum seals and vials.
Perfect for chromatography and general crimping needs.

Part Number	Cap size (mm)	Case Qty
69902-11	11	1
69902-13	13	1
69902-20	20	1

Decrimper

Manual hand de-crimper for aluminum seals and vials.
Perfect for chromatography and general crimping needs.

Part Number	Cap size (mm)	Case Qty
69904-11	11	1
69904-13	13	1
69904-20	20	1

White FEP/Silicone Septa

Designed for use with headspace autosamplers for sealing sample vials used in operating temperature ranges of -60 to 200 °C.

- For aluminum seal finishes

Part Number	Thickness - FEP (inches)	Thickness - Silicon Rubber (inches)	GPI Finish	Case Qty
N73831A-20	0.003	0.120	20 or 20A	1000

PTFE-Faced Silicone Rubber Septa

- Excellent for use with open-top caps to access container contents with a syringe
- Highly chemically resistant PTFE facing maintains integrity of contents
- Silicone rubber backing allows repeated puncturing through seal
- Resists coring
- Autoclavable
- Recommended for use in all autosamplers using screw thread vials
- 73818A-24 is white PTFE / tan silicone and is recommended for use with EPA vials

Part Number	Thickness - PTFE (inches)	Thickness - Silicon Rubber (inches)	Fits Thread Cap Size (mm)	Case Qty
774161-0008	0.005	0.060	8	48
774161-0013	0.005	0.060	13	48
N73818T-13	0.005	0.060	13	1,000
774161-0015	0.005	0.060	15	48
73818-15	0.005	0.060	15	144
774161-0018	0.005	0.060	18	24
73818-18	0.005	0.060	18	144
73818X-18	0.005	0.090	18	144
774161-0020	0.005	0.060	20	24
73818-20	0.005	0.060	20	144
774161-0024	0.005	0.060	24	24
774161-0924	0.010	0.090	24	24
73818-24	0.005	0.060	24	144
73818A-24	0.005	0.120	24	144
73818X-24	0.010	0.090	24	144

Red PTFE-Faced Silicone Rubber Septa

- Highly chemically resistant PTFE-faced silicone rubber maintains integrity of contents
- Excellent compressibility and resealability
- Withstands multiple injections
- Resists coring

Part Number	Thickness - PTFE (inches)	Thickness - Silicon Rubber (inches)	GPI Finish	Shelf-Pack Qty	Case Qty
N73818B-13	0.005	0.070	13-425	100	1,000

PTFE-Faced Red Rubber Septa

- Economical
- Excellent resealability
- Low extractables
- Highly chemical resistant PTFE facing maintains integrity of contents
- Resists coring

Part Number	Thickness - PTFE (inches)	Thickness - Red Rubber (inches)	GPI Finish	Case Qty
73816-15	0.002	0.060	15-425	144
73816-18	0.002	0.060	18-400	144
73816-20	0.002	0.060	20-400	144
73816-24	0.002	0.060	24-400	144
N73812-13	0.005	0.060	13-425	1,000
N73816T-13	0.002	0.050	13-425	1,000
N73830A-20	0.01	0.115	20 or 20A	1,000
N73832-20	0.25		20 or 20A	100
N73832A-20	0.25		20 or 20A	1,000

Universal Tube Rack

NEW!!

- Fits tubes 10 mm to 17 mm OD
- 25 position
- Dishwasher safe
- Safe for use up to 90 °C
- Patented inner clamps keep tubes centered and vertical

Part Number	Tube Size (mm)	Positions	Case Qty
749210-0100	10 - 17	25	1

Plain Disposable Borosilicate Glass Tubes

These premium quality tubes feature sturdy, uniform bottoms and consistent lengths. The 10 x 75 and 12 x 75 mm sizes are suitable for cell washing procedures.

- 51 expansion borosilicate glass offers excellent chemical resistance against sodium leaching, a factor common in soda lime glass products
- Tubes are packed in convenient trays for ease of use on bench tops and in drawers
- The 6 x 50 mm size is often referred to as a "Durham tube"
- Trays are shrink-wrapped in plastic film, with tubes remaining in constant alignment for protection against in-transit breakage and contamination
- No marking spot
- Designed from ASTM Specification E890
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	Overflow Capacity (mL)	OD x Length (mm)	Case Qty
73500-650	1	6 x 50	1000
73500-1075	4	10 x 75	1000
73500-1275	6	12 x 75	1000
73500-13100	10	13 x 100	1000
73500-1585	11	15 x 85	1000
60T1685B	13	16 x 85	1000
73500-16100	15	16 x 100	1000
73500-16125	19	16 x 125	1000
73500-16150	23	16 x 150	1000
73500-18150	28.5	18 x 150	500
73500-20150	36	20 x 150	500
73500-25150	55	25 x 150	500

Amber Plain Disposable Borosilicate Glass Tubes

These premium quality tubes are produced from amber borosilicate glass to give superior protection for light sensitive applications.

- Amber 51 expansion borosilicate glass offers excellent chemical resistance against sodium leaching, a factor common in soda lime glass products
- Tubes are packed in convenient trays for ease of use on bench tops and in drawers
- Trays are shrink-wrapped in plastic film, with tubes remaining in constant alignment for protection against in-transit breakage and contamination
- No marking spot
- Designed from ASTM Specification E890
- Manufactured from amber 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

NEW!!

Part Number	Overflow Capacity (mL)	OD x Length (mm)	Case Qty
73500-1075A	4	10 x 75	1000
73500-13100A	10	13 x 100	1000
73500-16100A	15	16 x 100	1000

Plain Disposable Soda-Lime Glass Tubes

- All tubes have sturdy, uniform bottoms and consistent lengths
- No marking spot
- Manufactured from 90 expansion soda-lime glass conforming to USP Type III requirements

Part Number	Overflow Capacity (mL)	OD x Length (mm)	Case Qty
60AM10	4	10 x 75	1000
60BM12	6	12 x 75	1000
60CM13	10	13 x 100	1000
60MM190	13	16 x 75	1000
60EM16	15	16 x 100	1000
60FM165	19	16 x 125	1000
60GM166	23	16 x 150	1000
60KM18	28.5	18 x 150	500

Disposable Screw Thread Culture Tubes with Marking Spot

These culture tubes are suitable for tissue culture work and general bacteriological use.

- Round-bottomed
- Each tube has a marking area
- Modular trays are shrink-wrapped in plastic film
- Supplied without caps
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	OD x Length (mm)	GPI Finish; Capacity (mL)	Case Qty
73750-13100	13 x 100	13-415; 8	1,000
73750-16100	16 x 100	15-415; 12	1,000
73750-16125	16 x 125	15-415; 16	1,000
73750-16150	16 x 150	15-415; 20	1,000
73750-20125	20 x 125	18-415; 25	500
73750-20150	20 x 150	18-415; 30	500

Disposable Screw Thread Culture Tubes

These tubes are suitable for tissue culture work and general bacteriological use.

- 73760 series and 90 series items that end in 'F' have flat bottoms which contribute to stability
- 73770 series are produced with a round bottom
- Modular trays are shrink-wrapped in plastic film
- Supplied without caps
- No marking spot
- Manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements

Part Number	GPI Finish; Capacity (mL)	OD x Length (mm)	Case Qty
73770-13100	13-415; 8	13 x 100	1,000
73770-16100	15-415; 12	16 x 100	1,000
73770-16125	15-415; 16	16 x 125	1,000
73770-16150	15-415; 20	16 x 150	1,000
73770-20125	18-415; 25	20 x 125	500
73770-20150	18-415; 30	20 x 150	500
73760-16125	15-415; 16	16 x 125	1,000
90H13100F	13-415; 8	13 x 100	1000
90K16100F	15-415; 12	16 x 100	1000
90P20113F	18-415; 20	20 x 113	500
90P20125F	18-415; 25	20 x 125	500
90P20150F	18-415; 30	20 x 150	500

Score-Break Ampules

Small glass vessels fabricated from USP Type I borosilicate glass, providing maximum solution stability and easy hermetic sealing. Kimble® ampules are offered in capacities ranging from 1 mL to 20 mL and in a variety of pack sizes.

- Pre-scored constricted portion of the stem permits safe and easy opening while eliminating the need for filing
- Amber glass is recommended for light-sensitive compounds
- Stems can be pull or tip-sealed
- Excellent dimensional stability for high speed filling and sealing operations
- Customization including barcoding, pre-cleaning, and other capacities and styles is available; contact Customer Service
- Amber ampules are manufactured from 51 expansion borosilicate glass conforming to USP Type 1 requirements
- Clear ampules are manufactured from 51 expansion borosilicate glass conforming to USP Type I and ASTM E438, Type I, Class B requirements.

Part Number	Glass Type	Capacity (mL)	Case Qty
12010L-1	Clear	1	1,152
12010L-2	Clear	2	1,152
12010L-5	Clear	5	864
12010L-10	Clear	10	576
12010L-20	Clear	20	288
12010U-1	Clear	1	8,640
12010U-2	Clear	2	5,760
12010U-5	Clear	5	3,456
12010U-10	Clear	10	1,728
12010U-20	Clear	20	1,152
12050G-2	Clear	2	144
12040G-1	Amber	1	144
12040G-2	Amber	2	144
12040U-2	Amber	2	5,760
12040U-5	Amber	5	3,456
12040U-10	Amber	10	1,728
12040U-20	Amber	20	1,152

Instructions for opening ampules: To open an ampule, grasp the stem in one hand and the body in the other, placing thumbs tip-to-tip near the constriction. Using thumb tips as a hinge, bend the stem and the body to break the ampule open. A special ampule file is not required.

Methods of Sealing: For the tip-sealing method, while holding the ampule body, heat the tip in the flame approximately 3-4 mm from the top. Gently rotate the ampule while heating until the melted glass fuses into a smooth dome. The tip-sealing method is better suited for short stem ampules.

To use the pull-sealing method, heat the center of the ampule stem in the flame. As the glass softens, rotate the ampule while pulling the top off. This method may be used to seal all ampule configurations.

Personalized Product Solutions

Kimble® supplies custom-designed products to many brands throughout the world. Our unique ability to produce and package precision parts and deliver those products on time lets you focus on selling your brand.
For information about how our personalized business development programs can drive your business forward rapidly, please email info@kimble-chase.com.

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- Chromatography Vials (LC, GC, LC-MS, GC-MS, Headspace)
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- Cell Culture Flasks
- NMR Tubes
- Centrifuge Tubes
- LC Solvent Delivery Systems
- Serum Vials and Bottles
- Ampuls
- Product/Sample Storage Vials and Bottles
- Laboratory Holloware (Beakers, Flasks, Cylinders)
- Closures, Caps, Seals
- Packaging

Market Capability Expertise
- Diagnostic Kit Components
- Chemical Standards and Reagents
- Personalized Packaging and Labeling

Glass Expertise
- Gx(KIMAX®) 33 low extractable or 51 expansion glass
- Type I - (Clear & Amber) borosilicate glass
- Type III - (Clear & Amber) Soda-lime glass

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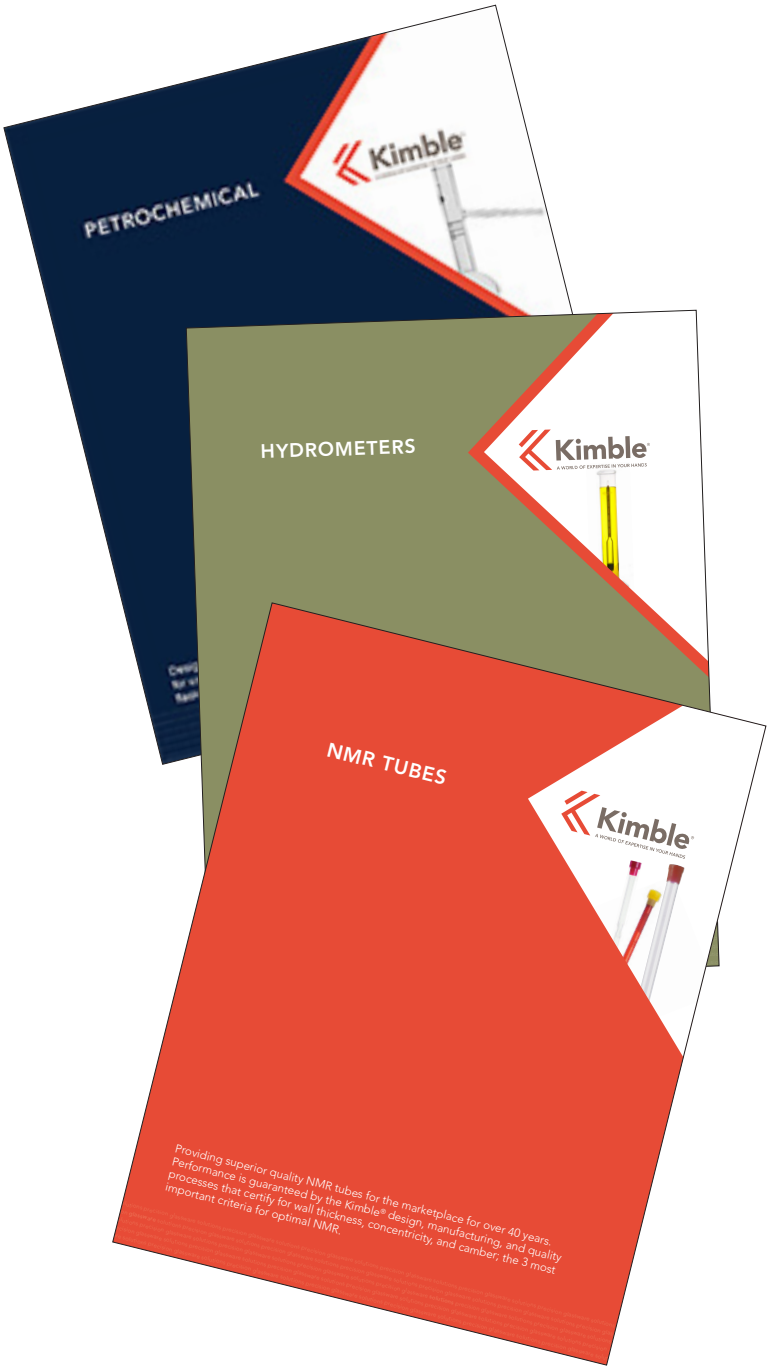

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