

# Prominence Vial Selection Guide

Shimadzu  
High Performance Liquid Chromatography



Vial Type	Part Number	Quantity	Dimensions	Recommended Fill Volume	Residual Volume (using default needle stroke for the rack type)	Insert Available
1 mL shell vial with plug cap - clear 1 mL shell vial with plug cap - amber <b>Low Adsorption Glass</b>	220-91521-06 220-91521-07	250/pk	8 x 40 mm	900 $\mu$ L	77 $\mu$ L	220-91521-04, 200 $\mu$ L, 100/pk
1.5 mL (2.0 mL) with snap cap - clear 1.5 mL (2.0 mL) with snap cap - amber	220-91498-00 220-91521-17	100/pk	12 x 32 mm	1.5 mL	185 $\mu$ L	220-91521-04, 200 $\mu$ L, 100/pk
1.5 mL (2.0 mL) with screw cap - clear 1.5 mL (2.0 mL) with screw cap - clear silanized 1.5 mL (2.0 mL) with screw cap - amber 1.5 mL (2.0 mL) with screw cap - amber silanized 1.5 mL (2.0 mL) with screw cap and pre-slit septa - clear <b>Low Adsorption Glass</b>	228-45450-91 228-45451-91 228-45452-91 228-45453-91 220-91521-18	100/pk	12 x 32 mm	1.5 mL	185 $\mu$ L	220-91521-04, 200 $\mu$ L, 100/pk
1.5 mL MT-ITTM high recovery with screw cap - clear 1.5 mL MT-ITTM high recovery with screw cap - amber <b>Extra Low Adsorption Glass</b>	220-91521-01 220-91521-02	100/pk	12 x 32 mm	1.2 mL	8 $\mu$ L	----- -----
200 $\mu$ L Q-sert™ fused insert with screw cap <b>Low Adsorption Glass</b>	220-91521-03	100/pk	12 x 32 mm	200 $\mu$ L	6 $\mu$ L	-----
300 $\mu$ L polypropylene with screw cap	220-91521-05	100/pk	12 x 32 mm	290 $\mu$ L	8 $\mu$ L	-----
4 mL with screw cap - clear 4 mL with screw cap - amber <b>Low Adsorption Glass</b>	220-91521-08 220-91521-09	100/pk	15 x 45 mm	3.5 mL	342 $\mu$ L	228-21284-91, 300 $\mu$ L with spring, 100/pk 228-21285-91, 300 $\mu$ L insert only, 100/pk
4 mL MT-ITTM high recovery with screw cap - clear 4 mL MT-ITTM high recovery with screw cap - amber <b>Extra Low Adsorption Glass</b>	220-91521-10 220-91521-11	100/pk	15 x 45 mm	3.0 mL	12 $\mu$ L	-----
13 mL with screw cap - clear	228-21280-92	30/pk	23 x 45 mm	12.5 mL	500 $\mu$ L	-----



- 1 mL standard vials
- Clear or amber glass
- Break-apart PE plug caps



- 1.5 mL standard vials
- Clear or amber glass
- Snap caps or screw caps with PTFE/silicone septum or septumless PE



- 1.5 mL MT-IT™ vials
- Clear or amber glass
- Screw caps with PTFE/silicone septum or septumless PE



- 300  $\mu$ L polypropylene vials
- Conical interior
- Screw caps with PTFE/silicone septum or septumless PE

Order online at <http://store2.shimadzu.com/> or call 1 (800) 477-1227

Be sure to ask about volume discounts.

Replacement Cap	SIL-20A/AC, SIL-30AC	LC-2010a/c and SIL-HTa/c	SIL-10ADvp	SIL-10A/AF/AP	SIL-5000
220-91521-13, 1000/pk	1 mL vial rack 228-37614-92	1 mL vial rack 228-37532-91	Rack 1 228-39803-91 Rack 6 228-39803-96 Rack 11 228-39422-91	-----	200 pos. Sample Tray 220-91300-00 78 pos. Sample Tray 220-91300-01
-----	1.5 mL 105 pos. rack 228-45409-92 1.5 mL 70 pos. cooled rack 228-44617-92 1.5 mL 105 pos. cooled rack 228-50761-92 Rack Changer vial tray 228-50830-91 3/pk Rack Changer vial tray 220-91532-00 12/pk	1.5 mL rack 228-37533-91 1.5 mL cooled rack 228-35734-91	Rack 2 228-39803-92 Rack 7 228-39803-97 Rack 12 228-39422-92 Rack 12A 228-39422-96	Rack S 228-21046-91 Also requires Universal Sample Tray 499-00206-91 Cooler S 228-45063-91 or 228-35730-91	54 pos. Sample Tray 220-91304-54 98 pos. Sample Tray 220-91300-01
228-45454-91, 1000/pk 220-91521-12, 1000/pk septumless PE 220-91521-16, 1000/pk pre-slit septa	1.5 mL 105 pos. rack 228-45409-92 1.5 mL 70 pos. cooled rack 228-44617-92 1.5 mL 105 pos. cooled rack 228-50761-92 Rack Changer vial tray 228-50830-91 3/pk Rack Changer vial tray 220-91532-00 12/pk	1.5 mL rack 228-37533-91 1.5 mL cooled rack 228-35734-91	Rack 2 228-39803-92 Rack 7 228-39803-97 Rack 12 228-39422-92 Rack 12A 228-39422-96	Rack S 228-21046-91 Also requires Universal Sample Tray 499-00206-91 Cooler S 228-45063-91 or 228-35730-91	54 pos. Sample Tray 220-91304-54 98 pos. Sample Tray 220-91300-01
228-45454-91, 1000/pk 220-91521-12, 1000/pk septumless PE 220-91521-16, 1000/pk pre-slit septa	1.5 mL 105 pos. rack 228-45409-92 1.5 mL 70 pos. cooled rack 228-44617-92 1.5 mL 105 pos. cooled rack 228-50761-92 Rack Changer vial tray 228-50830-91 3/pk Rack Changer vial tray 220-91532-00 12/pk	1.5 mL rack 228-37533-91 1.5 mL cooled rack 228-35734-91	Rack 2 228-39803-92 Rack 7 228-39803-97 Rack 12 228-39422-92 Rack 12A 228-39422-96	Rack S 228-21046-91 Also requires Universal Sample Tray 499-00206-91 Cooler S 228-45063-91 or 228-35730-91	54 pos. Sample Tray 220-91304-54 98 pos. Sample Tray 220-91300-01
228-45454-91, 1000/pk 220-91521-12, 1000/pk septumless PE 220-91521-16, 1000/pk pre-slit septa	1.5 mL 105 pos. rack 228-45409-92 1.5 mL 70 pos. cooled rack 228-44617-92 1.5 mL 105 pos. cooled rack 228-50761-92 Rack Changer vial tray 228-50830-91 3/pk Rack Changer vial tray 220-91532-00 12/pk	1.5 mL rack 228-37533-91 1.5 mL cooled rack 228-35734-91	Rack 2 228-39803-92 Rack 7 228-39803-97 Rack 12 228-39422-92 Rack 12A 228-39422-96	Rack S 228-21046-91 Also requires Universal Sample Tray 499-00206-91 Cooler S 228-45063-91 or 228-35730-91	54 pos. Sample Tray 220-91304-54 98 pos. Sample Tray 220-91300-01
220-91521-14, 1000/pk	4 mL vial rack 228-37616-92	4 mL vial rack 228-37544-91	Rack 3 228-39803-93 Rack 13 228-39422-93	Rack L 228-21046-92 Cooler L 228-45064-91 or 228-35730-93	-----
220-91521-14, 1000/pk	4 mL vial rack 228-37616-92	4 mL vial rack 228-37544-91	Rack 3 228-39803-93 Rack 13 228-39422-93	Rack L 228-21046-92 Cooler L 228-45064-91 or 228-35730-93	-----
-----	-----	-----	-----	Rack LL 228-39384-91	-----



- 200 µL insert with spring
- Fits 1 mL and 1.5 mL vials



- 200 µL Q-sert vials
- Clear glass with fused insert
- Screw caps with PTFE/silicone septum or septumless PE



- 4 mL standard vials
- Clear or amber glass
- Screw caps with PTFE/silicone septum



- 4 mL MT-IT™ vials
- Clear or amber glass
- Screw caps with PTFE/silicone septum

Order online at <http://store2.shimadzu.com/> or call 1 (800) 477-1227

Be sure to ask about volume discounts.

Vial selection for an HPLC system is an important but often overlooked step. Several characteristics of the vials and septa are critical for optimum performance in an HPLC run. These vials have been thoroughly tested for compatibility with all Shimadzu autosamplers, so superior performance is assured.

### Vial Mouth Opening

A 6mm opening for the 1.5 (2.0) mL vial provides a better target for the autosampler needle and makes filling easier and cleaner, especially with automatic pipettors.

### Glass Thickness

Uniformity of the vial bottom thickness ensures consistent needle depth from run to run, and is one of 14 strictly controlled manufacturing points.

### Septa Quality

The 1.5 and 4 mL vials use a PTFE/silicone septum, and its cleanliness is suitable for everyday applications and for the most discriminating LCMS analyses. Additionally, the septum is press-fit inside the cap with no bonding agents to potentially contaminate samples, and it prevents the needle from pushing the septum into the vial. A pre-slit version is also available.

### Low Adsorption Glass

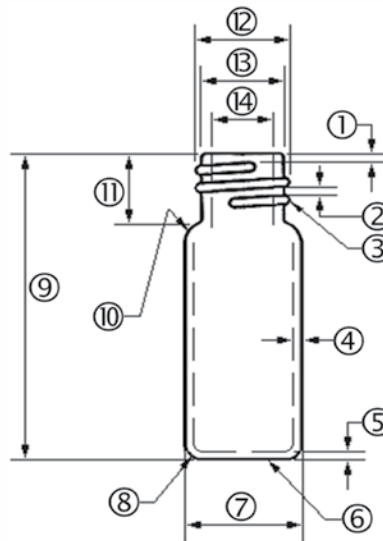
Prominence Low and Extra Low Adsorption glass vials are made from pharmaceutical Type I Borosilicate glass by a unique process that yields a surface chemistry with significantly reduced sample interactions without the use of a coating. This results in extremely low compound loss through adsorption or catalytic degradation. Our glass vials have very low reactivity, pH shift, and leaching characteristics.

Extra Low Adsorption vials are a must for Mass Spec users or when working with micromolar concentrations and/or low sample volumes, where the surface-to-volume effects are much more pronounced.

The 12x32mm 1.5mL clear and amber vials are also available with silanized glass, which is a conventional way to lower adsorption of polar compounds by chemically modifying the glass with permanently bonded hydrophobic groups to make the surface inert. The process is a multi-step gas phase deactivation.

### One-Twist Cap

The number of threads on the vial neck determines the amount of turn required to securely attach the cap. For high-throughput labs, our single-twist cap allows fast and easy sample preparation. For extra convenience, a 1.5 mL snap-cap vial is also available.



Founded in 1875, Shimadzu Corporation, a leader in the development of advanced technologies, has a distinguished history of innovation built on the foundation of contributing to society through science and technology. We maintain a global network of sales, service, technical support and applications centers on six continents, and have established long-term relationships with a host of highly trained distributors located in over 100 countries. For information about Shimadzu, and to contact your local office, please visit our Web site at [www.shimadzu.com](http://www.shimadzu.com).

#### **SHIMADZU CORPORATION International Marketing Division**

3. Kanda-Nishikicho 1-chome, Chiyoda-ku, Tokyo 101-8448, Japan  
Phone: 81(3)3219-5641, Fax: 81(3)3219-5710  
URL: [www.shimadzu.com](http://www.shimadzu.com)

#### **SHIMADZU SCIENTIFIC INSTRUMENTS, INC.**

7102 Riverwood Drive, Columbia, Maryland 21046, U.S.A.  
Phone: 800-477-1227/410-381-1227, Fax: 410-381-1222  
URL: [www.ssi.shimadzu.com](http://www.ssi.shimadzu.com)