



- **Higher recoveries**
- **Better reproducibility**
- **Smaller elution volumes...**

Cerex is a patented manufacturing technology that enables creation of very high performance solid phase extraction (SPE) columns. Cerex technology provides for the use of microparticulate sorbents in the SPE column, typically in the 10µm particle size range, as compared to the 40µm particle size range used by most commercial suppliers. Microparticulate sorbents offer tangible and significant benefits compared to larger particle sorbents; specifically, very high capture efficiency.

Capture efficiency refers to the ability of an SPE device to effectively retain, or “trap” desired analytes from the applied sample. Regardless of the **chemical** affinity of the sorbent for the analyte species, SPE products that use large particle sorbents may exhibit significant analyte breakthrough during sample application. This is caused by the relatively large flow paths between sorbent particles, allowing analytes to bypass contact with the sorbent, thus obviating retention (Figure 1).

In contrast, Cerex microparticulate sorbents contain much smaller flow paths, ensuring contact with the sorbent as the analyte molecules pass through the sorbent bed. This results in more efficient and consistent analyte trapping, leading to higher analyte recoveries and more reproducible results (Figure 2).

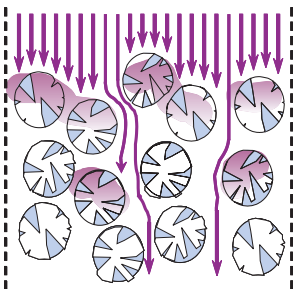


Figure 1. 40 Micron Path

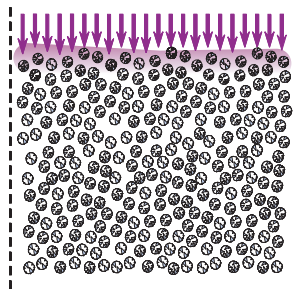
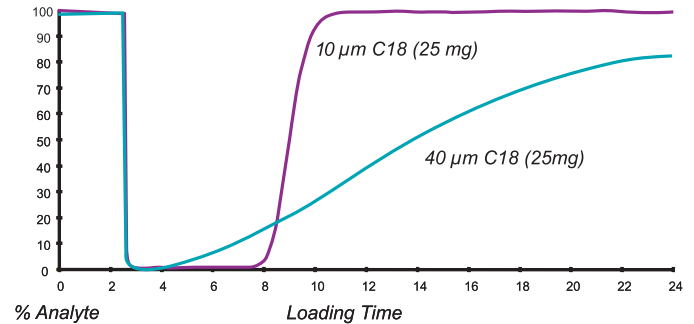


Figure 2. 10 Micron Path

A simple loading experiment demonstrates the difference between Cerex microparticulate SPE and a conventional product containing 40µm sorbent, using surface-matched sorbent chemistries (Figure 3). Breakthrough of a UV-absorbing analyte from each respective SPE column is measured using a conventional UV detector. The trace begins with the SPE column bypassed; therefore, the detector signal reflects the level of analyte in the loading solvent. As the cartridge is placed into the sample stream, absorbance drops initially, and then recovers as analyte “breaks through” the column.

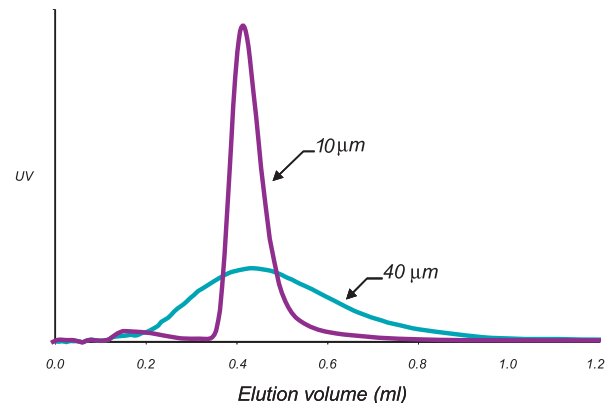
Figure 3. Cerex Microparticulate SPE vs. 40 Micron Sorbent



Note that the Cerex column captures roughly 4 times the analyte quantity as the 40µm column before breakthrough, and reaches total saturation capacity immediately thereafter, as seen by rapid recovery of the detector signal to initial conditions. In contrast, the 40µm SPE product never reaches saturation capacity, even after many minutes of sample loading.

This high capture effect allows the use of much smaller bed sizes in Cerex columns compared to conventional sorbents. For example, a 35mg or even a 20mg Cerex column typically exhibits the same effective capacity as a 100mg 40µm SPE product. And use of smaller sorbent beds allows for commensurately smaller analyte elution volumes (Figure 4).

Figure 4. Chromatogram 10 Micron vs. 40 Micron Elution



C18 Heavy Load, Octadecyl

Cat. No.	Description	Qty.
600-0096	20mg/1mL, 96-well plate block	1
600-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
600-0201R	20mg/1mL, 96 rimless tubes	1
600-0201	20mg/1mL SPE column	100
600-0203	20mg/3mL SPE column	50
600-0206	20mg/6mL SPE column	30
600-0351	35mg/1mL SPE column	100
600-0353	35mg/3mL SPE column	50
600-0356	35mg/6mL SPE column	30
600-1003	100mg/3mL SPE column	50
600-1006	100mg/6mL SPE column	30
600-1503	150mg/3mL SPE column	50
600-1506	150mg/6mL SPE column	30
600-3506	350mg/6mL SPE column	30
600-3507	350mg/15mL SPE column	20
600-3508	350mg/25mL SPE column	20
600-6506	650mg/6mL SPE column	30
600-6507	650mg/15mL SPE column	20

Cerex® SPE Columns



C18 Light Load, Octadecyl

Cat. No.	Description	Qty.
601-0096	20mg/1mL, 96-well plate block	1
601-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
601-0201R	20mg/1mL, 96 rimless tubes	1
601-0201	20mg/1 mL SPE column	100
601-0203	20mg/3mL SPE column	50
601-0206	20mg/6mL SPE column	30
601-0351	35mg/1mL SPE column	100
601-0353	35mg/3mL SPE column	50
601-0356	35mg/6mL SPE column	30
601-1003	100mg/3mL SPE column	50
601-1006	100mg/6mL SPE column	30
601-1503	150mg/3mL SPE column	50
601-1506	150mg/6mL SPE column	30
601-3506	350mg/6mL SPE column	30
601-3507	350mg/15mL SPE column	20
601-3508	350mg/25mL SPE column	20
601-6506	650mg/6mL SPE column	30
601-6507	650mg/15mL SPE column	20

C18 No End Capping, Octadecyl

602-0096	20mg/1mL, 96-well plate block	1
602-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
602-0201R	20mg/1mL, 96 rimless tubes	1
602-0201	20mg/1mL SPE column	100
602-0203	20mg/3mL SPE column	50
602-0206	20mg/6mL SPE column	30
602-0351	35mg/1mL SPE column	100
602-0353	35mg/3mL SPE column	50
602-0356	35mg/6mL SPE column	30
602-1003	100mg/3mL SPE column	50
602-1006	100mg/6mL SPE column	30
602-1503	150mg/3mL SPE column	50
602-1506	150mg/6mL SPE column	30
602-3506	350mg/6mL SPE column	30
602-3507	350mg/15mL SPE column	20
602-3508	350mg/25mL SPE column	20
602-6506	650mg/6mL SPE column	30
602-6507	650mg/15mL SPE column	20

C8 Octyl

Cat. No.	Description	Qty.
603-0096	20mg/1mL, 96-well plate block	1
603-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
603-0201R	20mg/1mL, 96 rimless tubes	1
603-0201	20mg/1mL SPE column	100
603-0203	20mg/3mL SPE column	50
603-0206	20mg/6mL SPE column	30
603-0351	35mg/1mL SPE column	100
603-0353	35mg/3mL SPE column	50
603-0356	35mg/6mL SPE column	30
603-1003	100mg/3mL SPE column	50
603-1006	100mg/6mL SPE column	30
603-1503	150mg/3mL SPE column	50
603-1506	150mg/6mL SPE column	30
603-3506	350mg/6mL SPE column	30
603-3507	350mg/15mL SPE column	20
603-3508	350mg/25mL SPE column	20
603-6506	650mg/6mL SPE column	30
603-6507	650mg/15mL SPE column	20

C8 No End Capping, Octyl

609-0096	20mg/1mL, 96-well plate block	1
609-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
609-0201R	20mg/1mL, 96 rimless tubes	1
609-0201	20mg/1mL SPE column	100
609-0203	20mg/3mL SPE column	50
609-0206	20mg/6mL SPE column	30
609-0351	35mg/1mL SPE column	100
609-0353	35mg/3mL SPE column	50
609-0356	35mg/6mL SPE column	30
609-1003	100mg/3mL SPE column	50
609-1006	100mg/6mL SPE column	30
609-1503	150mg/3mL SPE column	50
609-1506	150mg/6mL SPE column	30
609-3506	350mg/6mL SPE column	30
609-3507	350mg/15mL SPE column	20
609-3508	350mg/25mL SPE column	20
609-6506	650mg/6mL SPE column	30
609-6507	650mg/15mL SPE column	20

C4 Butyl

608-0096	20mg/1mL, 96-well plate block	1
608-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
608-0201R	20mg/1mL, 96 rimless tubes	1
608-0201	20mg/1mL SPE column	100
608-0203	20mg/3mL SPE column	50
608-0206	20mg/6mL SPE column	30
608-0351	35mg/1mL SPE column	100
608-0353	35mg/3mL SPE column	50
608-0356	35mg/6mL SPE column	30
608-1003	100mg/3mL SPE column	50
608-1006	100mg/6mL SPE column	30
608-1503	150mg/3mL SPE column	50
608-1506	150mg/6mL SPE column	30
608-3506	350mg/6mL SPE column	30
608-3507	350mg/15mL SPE column	20
608-3508	350mg/25mL SPE column	20
608-6506	650mg/6mL SPE column	30
608-6507	650mg/15mL SPE column	20

C2 Ethyl

Cat. No.	Description	Qty.
604-0096	20mg/1mL, 96-well plate block	1
604-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
604-0201R	20mg/1mL, 96 rimless tubes	1
604-0201	20mg/1mL SPE column	100
604-0203	20mg/3mL SPE column	50
604-0206	20mg/6mL SPE column	30
604-0351	35mg/1mL SPE column	100
604-0353	35mg/3mL SPE column	50
604-0356	35mg/6mL SPE column	30
604-1003	100mg/3mL SPE column	50
604-1006	100mg/6mL SPE column	30
604-1503	150mg/3mL SPE column	50
604-1506	150mg/6mL SPE column	30
604-3506	350mg/6mL SPE column	30
604-3507	350mg/15mL SPE column	20
604-3508	350mg/25mL SPE column	20
604-6506	650mg/6mL SPE column	30
604-6507	650mg/15mL SPE column	20

PH Phenyl

606-0096	20mg/1mL, 96-well plate block	1
606-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
606-0201R	20mg/1mL, 96 rimless tubes	1
606-0201	20mg/1mL SPE column	100
606-0203	20mg/3mL SPE column	50
606-0206	20mg/6mL SPE column	30
606-0351	35mg/1mL SPE column	100
606-0353	35mg/3mL SPE column	50
606-0356	35mg/6mL SPE column	30
606-1003	100mg/3mL SPE column	50
606-1006	100mg/6mL SPE column	30
606-1503	150mg/3mL SPE column	50
606-1506	150mg/6mL SPE column	30
606-3506	350mg/6mL SPE column	30
606-3507	350mg/15mL SPE column	20
606-3508	350mg/25mL SPE column	20
606-6506	650mg/6mL SPE column	30
606-6507	650mg/15mL SPE column	20

CN Cyanopropyl

605-0096	20mg/1mL, 96-well plate block	1
605-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
605-0201R	20mg/1mL, 96 rimless tubes	1
605-0201	20mg/1mL SPE column	100
605-0203	20mg/3mL SPE column	50
605-0206	20mg/6mL SPE column	30
605-0351	35mg/1mL SPE column	100
605-0353	35mg/3mL SPE column	50
605-0356	35mg/6mL SPE column	30
605-1003	100mg/3mL SPE column	50
605-1006	100mg/6mL SPE column	30
605-1503	150mg/3mL SPE column	50
605-1506	150mg/6mL SPE column	30
605-3506	350mg/6mL SPE column	30
605-3507	350mg/15mL SPE column	20
605-3508	350mg/25mL SPE column	20
605-6506	650mg/6mL SPE column	30
605-6507	650mg/15mL SPE column	20

NH2 Aminopropyl

Cat. No.	Description	Qty.
641-0096	20mg/1mL, 96-well plate block	1
641-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
641-0201R	20mg/1mL, 96 rimless tubes	1
641-0201	20mg/1mL SPE column	100
641-0203	20mg/3mL SPE column	50
641-0206	20mg/6mL SPE column	30
641-0351	35mg/1mL SPE column	100
641-0353	35mg/3mL SPE column	50
641-0356	35mg/6mL SPE column	30
641-1003	100mg/3mL SPE column	50
641-1006	100mg/6mL SPE column	30
641-1503	150mg/3mL SPE column	50
641-1506	150mg/6mL SPE column	30
641-3506	350mg/6mL SPE column	30
641-3507	350mg/15mL SPE column	20
641-3508	350mg/25mL SPE column	20
641-6506	650mg/6mL SPE column	30
641-6507	650mg/15mL SPE column	20

2OH 2,3-Dihydroxypropoxypropyl

632-0096	20mg/1mL, 96-well plate block	1
632-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
632-0201R	20mg/1mL, 96 rimless tubes	1
632-0201	20mg/1mL SPE column	100
632-0203	20mg/3mL SPE column	50
632-0206	20mg/6mL SPE column	30
632-0351	35mg/1mL SPE column	100
632-0353	35mg/3mL SPE column	50
632-0356	35mg/6mL SPE column	30
632-1003	100mg/3mL SPE column	50
632-1006	100mg/6mL SPE column	30
632-1503	150mg/3mL SPE column	50
632-1506	150mg/6mL SPE column	30
632-3506	350mg/6mL SPE column	30
632-3507	350mg/15mL SPE column	20
632-3508	350mg/25mL SPE column	20
632-6506	650mg/6mL SPE column	30
632-6507	650mg/15mL SPE column	20

SI Silica

620-0096	20mg/1mL, 96-well plate block	1
620-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
620-0201R	20mg/1mL, 96 rimless tubes	1
620-0201	20mg/1mL SPE column	100
620-0203	20mg/3mL SPE column	50
620-0206	20mg/6mL SPE column	30
620-0351	35mg/1mL SPE column	100
620-0353	35mg/3mL SPE column	50
620-0356	35mg/6mL SPE column	30
620-1003	100mg/3mL SPE column	50
620-1006	100mg/6mL SPE column	30
620-1503	150mg/3mL SPE column	50
620-1506	150mg/6mL SPE column	30
620-3506	350mg/6mL SPE column	30
620-3507	350mg/15mL SPE column	20
620-3508	350mg/25mL SPE column	20
620-6506	650mg/6mL SPE column	30
620-6507	650mg/15mL SPE column	20

Cerex® SPE Columns

SCX Strong Cation Exchange

Cat. No.	Description	Qty.
650-0096	20mg/1mL, 96-well plate block	1
650-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
650-0201R	20mg/1mL, 96 rimless tubes	1
650-0201	20mg/1mL SPE column	100
650-0203	20mg/3mL SPE column	50
650-0206	20mg/6mL SPE column	30
650-0351	35mg/1mL SPE column	100
650-0353	35mg/3mL SPE column	50
650-0356	35mg/6mL SPE column	30
650-1003	100mg/3mL SPE column	50
650-1006	100mg/6mL SPE column	30
650-1503	150mg/3mL SPE column	50
650-1506	150mg/6mL SPE column	30
650-3506	350mg/6mL SPE column	30
650-3507	350mg/15mL SPE column	20
650-3508	350mg/25mL SPE column	20
650-6506	650mg/6mL SPE column	30
650-6507	650mg/15mL SPE column	20

SAX Anion Exchange Silica

640-0096	20mg/1mL, 96-well plate block	1
640-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
640-0201R	20mg/1mL, 96 rimless tubes	1
640-0201	20mg/1mL SPE column	100
640-0203	20mg/3mL SPE column	50
640-0206	20mg/6mL SPE column	30
640-0351	35mg/1mL SPE column	100
640-0353	35mg/3mL SPE column	50
640-0356	35mg/6mL SPE column	30
640-1003	100mg/3mL SPE column	50
640-1006	100mg/6mL SPE column	30
640-1503	150mg/3mL SPE column	50
640-1506	150mg/6mL SPE column	30
640-3506	350mg/6mL SPE column	30
640-3507	350mg/15mL SPE column	20
640-3508	350mg/25mL SPE column	20
640-6506	650mg/6mL SPE column	30
640-6507	650mg/15mL SPE column	20

CBA Propylcarboxylic Acid

652-0096	20mg/1mL, 96-well plate block	1
652-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
652-0201R	20mg/1mL, 96 rimless tubes	1
652-0201	20mg/1mL SPE column	100
652-0203	20mg/3mL SPE column	50
652-0206	20mg/6mL SPE column	30
652-0351	35mg/1mL SPE column	100
652-0353	35mg/3mL SPE column	50
652-0356	35mg/6mL SPE column	30
652-1003	100mg/3mL SPE column	50
652-1006	100mg/6mL SPE column	30
652-1503	150mg/3mL SPE column	50
652-1506	150mg/6mL SPE column	30
652-3506	350mg/6mL SPE column	30
652-3507	350mg/15mL SPE column	20
652-3508	350mg/25mL SPE column	20
652-6506	650mg/6mL SPE column	30
652-6507	650mg/15mL SPE column	20

4CX Butyl/cation exchange

Cat. No.	Description	Qty.
720-0096	20mg/1mL, 96-well plate block	1
720-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
720-0201R	20mg/1mL, 96 rimless tubes	1
720-0201	20mg/1mL SPE column	100
720-0203	20mg/3mL SPE column	50
720-0206	20mg/6mL SPE column	30
720-0351	35mg/1mL SPE column	100
720-0353	35mg/3mL SPE column	50
720-0356	35mg/6mL SPE column	30
720-1003	100mg/3mL SPE column	50
720-1006	100mg/6mL SPE column	30
720-1503	150mg/3mL SPE column	50
720-1506	150mg/6mL SPE column	30
720-3506	350mg/6mL SPE column	30
720-3507	350mg/15mL SPE column	20
720-3508	350mg/25mL SPE column	20
720-6506	650mg/6mL SPE column	30
720-6507	650mg/15mL SPE column	20

4AX Butyl/Anion Exchange

721-0096	20mg/1mL, 96-well plate block	1
721-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
721-0201R	20mg/1mL, 96 rimless tubes	1
721-0201	20mg/1mL SPE column	100
721-0203	20mg/3mL SPE column	50
721-0206	20mg/6mL SPE column	30
721-0351	35mg/1mL SPE column	100
721-0353	35mg/3mL SPE column	50
721-0356	35mg/6mL SPE column	30
721-1003	100mg/3mL SPE column	50
721-1006	100mg/6mL SPE column	30
721-1503	150mg/3mL SPE column	50
721-1506	150mg/6mL SPE column	30
721-3506	350mg/6mL SPE column	30
721-3507	350mg/15mL SPE column	20
721-3508	350mg/25mL SPE column	20
721-6506	650mg/6mL SPE column	30
721-6507	650mg/15mL SPE column	20

8CX Octyl/Cation Exchange

722-0096	20mg/1mL, 96-well plate block	1
722-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
722-0201R	20mg/1mL, 96 rimless tubes	1
722-0201	20mg/1mL SPE column	100
722-0203	20mg/3mL SPE column	50
722-0206	20mg/6mL SPE column	30
722-0351	35mg/1mL SPE column	100
722-0353	35mg/3mL SPE column	50
722-0356	35mg/6mL SPE column	30
722-1003	100mg/3mL SPE column	50
722-1006	100mg/6mL SPE column	30
722-1503	150mg/3mL SPE column	50
722-1506	150mg/6mL SPE column	30
722-3506	350mg/6mL SPE column	30
722-3507	350mg/15mL SPE column	20
722-3508	350mg/25mL SPE column	20
722-6506	650mg/6mL SPE column	30
722-6507	650mg/15mL SPE column	20

8AX Octyl/Anion Exchange

Cat. No.	Description	Qty.
723-0096	20mg/1mL, 96-well plate block	1
723-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
723-0201R	20mg/1mL, 96 rimless tubes	1
723-0201	20mg/1mL SPE column	100
723-0203	20mg/3mL SPE column	50
723-0206	20mg/6mL SPE column	30
723-0351	35mg/1mL SPE column	100
723-0353	35mg/3mL SPE column	50
723-0356	35mg/6mL SPE column	30
723-1003	100mg/3mL SPE column	50
723-1006	100mg/6mL SPE column	30
723-1503	150mg/3mL SPE column	50
723-1506	150mg/6mL SPE column	30
723-3506	350mg/6mL SPE column	30
723-3507	350mg/15mL SPE column	20
723-3508	350mg/25mL SPE column	20
723-6506	650mg/6mL SPE column	30
723-6507	650mg/15mL SPE column	20

PNP Non-polar Polymer

710-0096	20mg/1mL, 96-well plate block	1
710-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
710-0201R	20mg/1mL, 96 rimless tubes	1
710-0201	20mg/1mL SPE column	100
710-0203	20mg/3mL SPE column	50
710-0206	20mg/6mL SPE column	30
710-0351	35mg/1mL SPE column	100
710-0353	35mg/3mL SPE column	50
710-0356	35mg/6mL SPE column	30
710-1003	100mg/3mL SPE column	50
710-1006	100mg/6mL SPE column	30
710-1503	150mg/3mL SPE column	50
710-1506	150mg/6mL SPE column	30
710-3506	350mg/6mL SPE column	30
710-3507	350mg/15mL SPE column	20
710-3508	350mg/25mL SPE column	20
710-6506	650mg/6mL SPE column	30
710-6507	650mg/15mL SPE column	20

PCX Cation Exchange Polymer

709-0096	20mg/1mL, 96-well plate block	1
709-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
709-0201R	20mg/1mL, 96 rimless tubes	1
709-0201	20mg/1mL SPE column	100
709-0203	20mg/3mL SPE column	50
709-0206	20mg/6mL SPE column	30
709-0351	35mg/1mL SPE column	100
709-0353	35mg/3mL SPE column	50
709-0356	35mg/6mL SPE column	30
709-1003	100mg/3mL SPE column	50
709-1006	100mg/6mL SPE column	30
709-1503	150mg/3mL SPE column	50
709-1506	150mg/6mL SPE column	30
709-3506	350mg/6mL SPE column	30
709-3507	350mg/15mL SPE column	20
709-3508	350mg/25mL SPE column	20
709-6506	650mg/6mL SPE column	30
709-6507	650mg/15mL SPE column	20

PAX Anion Exchange Polymer

Cat. No.	Description	Qty.
671-0096	20mg/1mL, 96-well plate block	1
671-0201RH	20mg/1mL, 96 rimless tubes w/plate	1
671-0201R	20mg/1mL, 96 rimless tubes	1
671-0201	20mg/1mL SPE column	100
671-0203	20mg/3mL SPE column	50
671-0206	20mg/6mL SPE column	30
671-0351	35mg/1mL SPE column	100
671-0353	35mg/3mL SPE column	50
671-0356	35mg/6mL SPE column	30
671-1003	100mg/3mL SPE column	50
671-1006	100mg/6mL SPE column	30
671-1503	150mg/3mL SPE column	50
671-1506	150mg/6mL SPE column	30
671-3506	350mg/6mL SPE column	30
671-3507	350mg/15mL SPE column	20
671-3508	350mg/25mL SPE column	20
671-6506	650mg/6mL SPE column	30
671-6507	650mg/15mL SPE column	20

Florisol, Magnesium Sulfate (40um)

621-0501	50mg/1mL SPE column	100
621-0503	50mg/3mL SPE column	50
621-0506	50mg/6mL SPE column	30
621-1001	100mg/1mL SPE column	100
621-1003	100mg/3mL SPE column	50
621-1006	100mg/6mL SPE column	30
621-2003	200mg/3mL SPE column	50
621-2006	200mg/6mL SPE column	30
621-5003	500mg/3mL SPE column	50
621-5006	500mg/6mL SPE column	30
621-0016	1g/6mL SPE column	30
621-0017	1g/15mL SPE column	20
621-0018	1g/25mL SPE column	20
621-0026	2g/6mL SPE column	30
621-0027	2g/15mL SPE column	20

