



Solutions for Chiral Separations &
Sample Preparations

Short User Manual and Order Information for ChiralTek UPE Cartridges

Please visit English website <http://chiraltek-column.com/Downloads.php> or Chinese website <http://cbook.antpedia.com/6755> for downloading the full product manual and application notes for the HPE cartridges.

All the ChiralTek UPE cartridges have been passed the sampling detection and quality control tests. Please kindly refer to the “Certificate of Quality Control Analysis” for information about the testing results and product batch number. Please carefully read this short user manual before using the UPE cartridges.

1. Unique Characteristics for UPE Cartridges

The Ultra-high Performance Extraction (UPE) cartridges are a novel type of solid phase extraction (SPE) cartridges manufactured by ChiralTek. The UPE particles were prepared through a specially-designed procedure by bonding C18 (ODS) and ChiralTek proprietary functional groups onto high-quality porous spherical silica particles. By using a ChiralTek proprietary packing approach, the UPE particles were then packed into kinds of polypropylene tubes with different sizes to manufacture several models of UPE cartridges for ultra-high performance solid phase extractions. The following Figure (A) shows a typical photo of model UPE-20 cartridges.



Figure(A). Typical Photo for UPE-20 cartridges

The UPE-20 model cartridges (specification: 20 mg/3mL, 120Å, 50 PCs/pkg) in Figure (A) are suitable for extraction of small volume samples (0.5 – 200mL). The sample capacity of the UPE-20 cartridges are equivalent to other supplier's 100-200mg/3mL ODS (C18) type of conventional SPE cartridges. Similarly, another model UPE-90 cartridges (specification: 90 mg/6mL, 120Å, 25 PCs/pkg) in Figure (B) are suitable for extraction of large volume samples (500 – 2000mL).

Due to the unique co-operative functioning of the bonded C18 (ODS) and ChiralTek proprietary functional groups, the novel UPE cartridges exhibit excellent column efficiency, high reproducibility, high elution efficiency, and very high extraction recovery. The specially-designed synthetic procedure allows the UPE particles to contain ultra-high content of ODS functional group. This directly results in ultra-high sample capacity for the novel UPE cartridges.

Compared to other traditional SPE cartridges, the novel UPE cartridges contain much thinner column beds and much smaller volume of the packing materials (only 5 to 10% of other traditional SPE



Figure(B). Typical Photo for UPE-90 cartridges

Cartridges. After loading the sample, extremely small amount of organic solvents (0.3mL for UPE-20 and UPE-30; 1.5mL for UPE-60 and UPE90 cartridges) can be used to quickly elute out and simultaneously concentrate the extracts from the UPE cartridges. The elute can be collected in a 1.5mL sample vials for direct injection and final analysis. Both the elution and concentration operations can be completed in one step without extra heating or nitrogen drying procedure when using UPE cartridges.

2. Application and Requirements

The UPE-20, UPE-30, UPE-60, and UPE90 cartridges can be used as direct replacements of other supplier's 100-200mg/3mL ODS (C18), 200-500mg/3mL ODS (C18), 500-1000mg/6mL ODS (C18), and 1000-2000mg/6mL ODS (C18)

type of conventional SPE cartridges respectively. Since the strong alkalic compounds (e.g., NaOH) can cause damages to the UPE column bed, they cannot be used as elution solution additives or sample solution additives.

3. Considerations for Storage of UPE Cartridges

The finished products of the UPE cartridges were packed into light-tight anti-static bags under nitrogen. The originally-sealed UPE cartridges can be stored for a quite long time (several years) at room temperature.

The UPE cartridges could be stored for six months in a cool and ventilated dark place after

opening the original sealing package.

The external packing plastic box for UPE cartridges is quite strong and stable. The end users are strongly recommended to use the original external packing box from ChiralTek for storing the UPE cartridges and try to avoid any external force extrusion.

4. Order Information for the UPE Cartridges with Different Specifications

Order Information for ChiralTek Ultra-high Performance UPE Cartridges				
Product No.	Model	Specification	Remarks	Organic solvent for condition and final elution
880-UPE-20	UPE-20	20mg/3mL, 120Å, 50 PCs/box	Replacement for 100-200mg/3mL ODS (C18) conventional SPE cartridges	0.3mL
880-UPE-30	UPE-30	30mg/3mL, 120Å, 50 PCs/box	Replacement for 200-500mg/3mL ODS (C18) conventional SPE cartridges	0.3mL
880-UPE-60	UPE-60	60mg/6mL, 120Å, 25 PCs/box	Replacement for 500-1000mg/6mL ODS (C18) conventional SPE cartridges	1.5mL
880-UPE-90	UPE-90	90mg/6mL, 120Å, 25 PCs/box	Replacement for 1000-2000mg/6mL ODS (C18) conventional SPE cartridges	1.5mL

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Please call an international phone number (+65)-93656129 to directly contact the ChiralTek technical support team in Singapore. You also can call a special local phone number (+86)-95040358310 in the mainland of China to directly contact ChiralTek technical support team in Singapore.