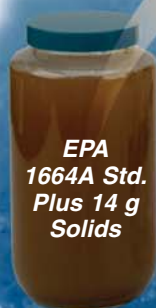


# XENOSEP<sup>®</sup>

## SPE Systems for EPA Method 1664A

The Easiest, Most  
Cost Effective Way to  
Increase Productivity



*“With Xenosep SPE  
Filters, we experienced a  
significant reduction in  
labor and solvent usage  
when compared to our old  
brand of SPE disks.”*

*J. B. Waggoner, Managing Partner,  
Inovatia Laboratories*

Filtration  
Complete in Less  
than 1 Minute



XENOSEP  
technologies

Making the Difference in Separation Products

# XENOSEP® SPE Systems for EPA Method 1664A



**Extract Samples 5 Times Faster, Distill Samples 3 Times Faster, and Significantly Lower Cost Per Test...**

## Step 1 Extract 1 L Sample

17 seconds is all it takes to filter a 40 mg/L\* OPR and achieve 98% recovery. That's 50 times faster than a typical single layer SPE filter with 89% recovery. In addition, triple layer Xenomax® SPE Filters have 5 times the filtration capacity already built-in for the MS, MSD, and hard-to-filter samples.

\*As required by EPA Method 1664A

## Step 2 Elute and Dry Extract

Less filter clogging enables more efficient filter drying and eluting with less solvent. Xenomax sodium sulfate columns save time by eliminating off-line drying steps or repouring the extracted water sample back into the separatory funnel.

## Step 3 Distill and Oven Dry Extract

Less extraction solvent means faster distillation. Final hexane extracts distill to dryness in about 10 minutes. Unique flat sided Xenosep flasks reduce oven drying times by 67% so you get QC tests in the dessicator 3 times faster than the other options below.

*Three Simple Steps  
Increase Productivity,  
Saves Time and Money...*

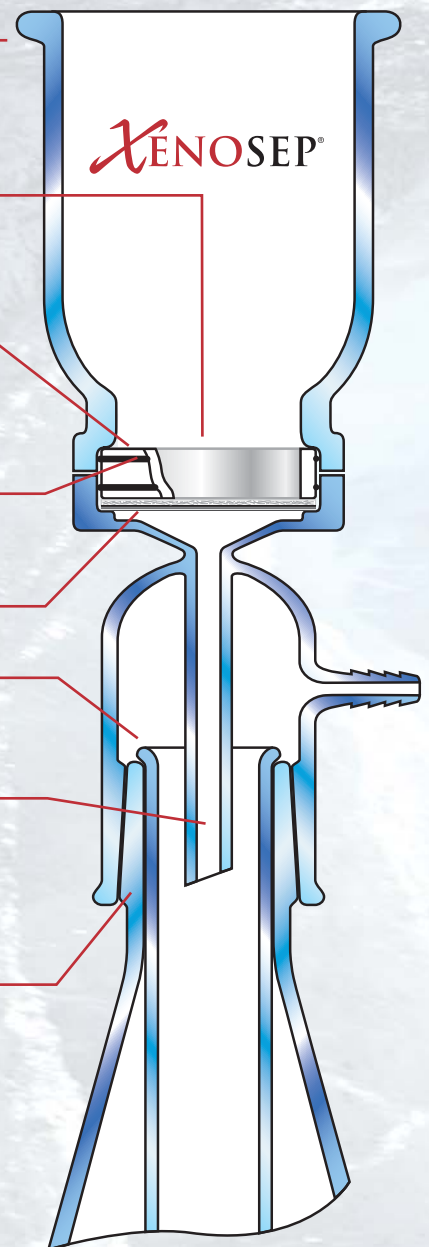
### Compare the Options

| Process Step                       | Xenosep® SPE | Typical SPE   | Hexane LLE    |
|------------------------------------|--------------|---------------|---------------|
| Extract-Elute-Dry                  | 8.8 min.     | 26.5 min.     | 46.0 min.     |
| Distill-Oven Dry                   | 21.0 min.    | 50.0 min.     | 60.0 min.     |
| Time to Dessicator                 | 29.8 min.    | 76.5 min.     | 106.0 min.    |
| Estimated Labor/Batch of 20        | 4 hrs.       | 6 hrs.        | 8 hrs.        |
| <b>Xenosep Labor Savings/Batch</b> |              | <b>2 hrs.</b> | <b>4 hrs.</b> |

# The First SPE Filter and Glass Apparatus Specially Designed for Dirty Wastewater Samples

## Conditioning/Filtration Apparatus

- Short wide funnel for easy access and effective glassware rinsing
- Built-In space for optional prefilters, filter aids, and/or drying agent additions to “wet” solids
- Secure coupler maximizes effective filtration area and prevents assembly misalignment
- Teflon® encapsulated O-ring seal eliminates solvent and vacuum leaks without extractables
- Solid rimmed stainless steel support prevents analyte bypass
- Flared collection tube for easy removal
- Wider internal diameter stem maximizes filtration rates
- Universal  $\overline{\text{K}}$  40/35 joint connects to elution apparatus or standard multi-place manifold, optimized to accept 30 mm OD vials or collection tubes
- Easy to clean glassware minimizes breakage and fits standard washers



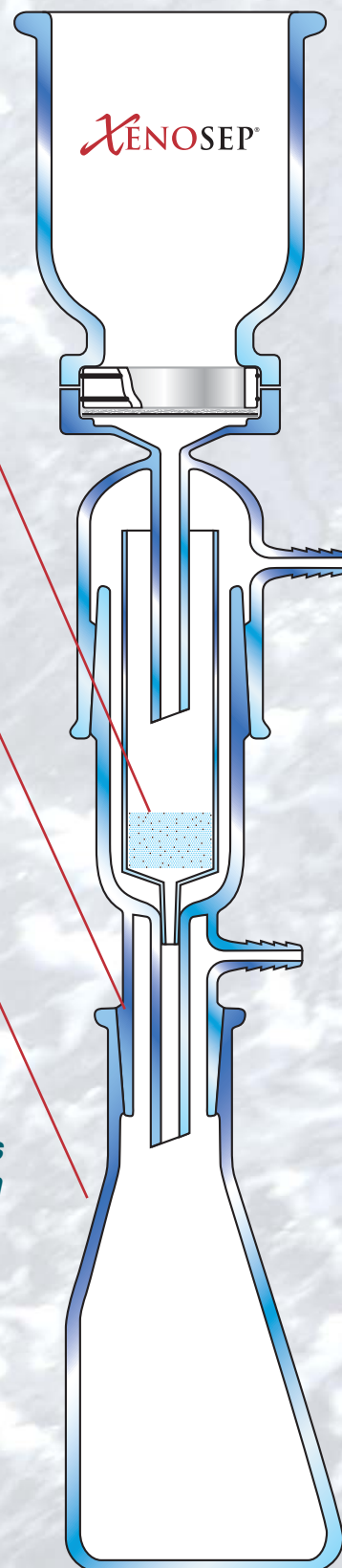
# *Integral Design Maximizes Filtration Efficiency, Simplifies Analyte Recovery, and Ensures Reproducible Results*

## ***Elution/Cleaning Apparatus***

- ***Unique integral apparatus increases productivity and lowers cost per result***
- ***Disposable prepacked sodium sulfate cartridge maximizes recoveries, speed, and eliminates off-line transfers***
- ***Dedicated station for sample elution, drying and CIP (clean-in-place) glassware solvent rinsing***
- ***Universal  $\text{§ 24/25}$  joint for collection into standard  $\text{§ 24/40}$  flask***
- ***Flat sided flask gently evaporates extract to increase recoveries and lower MDLs***

## ***Distillation/Evaporation Apparatus***

- ***Compact cross-over condenser design simplifies solvent recovery and provides analyst protection***
- ***Flat sided flask optimized to reduce distillation/evaporation times***
- ***$\text{N}_2$  inlet provided for safety and faster distillation/evaporation***

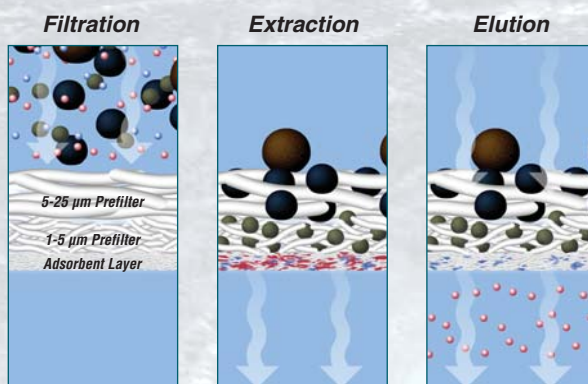


# XENOMAX® SPE Fast Throughput High Capacity Filters

## Unique Triple Layer Construction Offers Fastest Sample Throughput and Highest Filtration Capacity

- No emulsions or Freon® non-compliance
- Assure legally defensible data
- Achieve higher quality results
- Reliable and consistent performance
- Decrease sample turnaround time
- Eliminate additional prefilter expense
- Significantly reduce operating cost

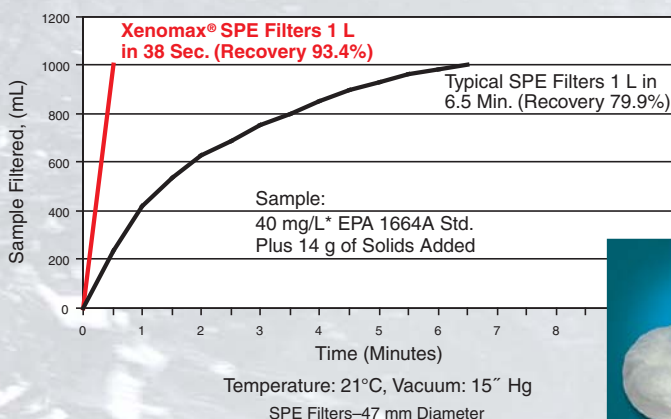
### Three Filter Layers Trap Different Size Solids to Maximize Speed and Filtration Capacity



Cutaway views of how the triple layer Xenomax SPE Filter separates analytes from particulate and unwanted soluble interferences

- Green—3 µm Particulates
- Red—Oil and Grease Analytes
- Blue—Soluble Interference
- Black—8 µm Particulates
- Brown—30 µm Particulates

### Filter Dirty Samples 10 Times Faster



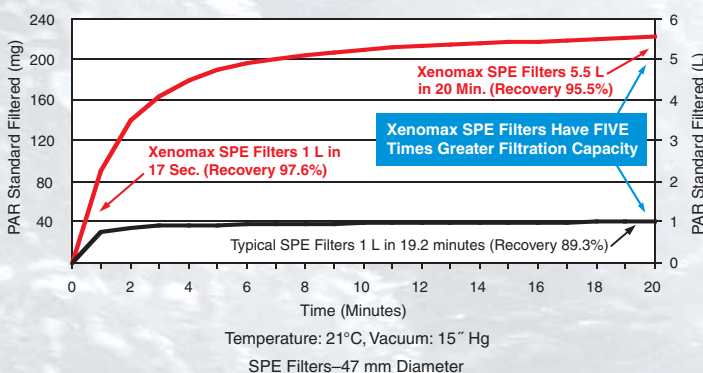
Extra Thick Fluffy Layer Suspends Solids Filter Cake and Prevents Premature Clogging of Dirty Samples

## Why are 40 mg/L PAR Comparisons Important?

EPA Method 1664A requires the PAR concentration as follows: "The weight must be 40 ± 1 mg" (Section 7.10.3 NOTE) and at least this amount are required for the QCS, OPR, MS, MSD, and IPR samples. (Sections 9.8, 9.7, 9.6.1, 9.3.1, 9.2.2, 7.11 and 7.10) Although certain method modifications are allowed, a change in the PAR concentration is not expressly permitted and "shall be considered a major modification subject to application and approval of alternate test procedures under CFR 136.4 and 136.5." (Sections 1.7 and 1.8)

**Why expose the defensibility of your data to unnecessary legal risk?** Use 40 mg/L QC samples and achieve higher quality results with Xenosep SPE Filters. Request your free samples today online at [www.xenosep.com/contact.html](http://www.xenosep.com/contact.html).

### SPE Speed and Filtration Capacity 40 mg/L \* EPA 1664A PAR Standard



PAR (Precision and Recovery); QCS (Quality Control Sample); OPR (Ongoing Precision and Recovery); IPR (Initial Precision and Recovery); MS (Matrix Spike); MSD (Matrix Spike Duplicate)

\*As required by EPA Method 1664A