

Resprep™ Resin Disk

(cat.# 26023)

Introduction

Resprep™ resin disks (polystyrenedivinybenzene) are designed to offer superior flow rates using glass fiber material instead of Teflon® disks, which may present clogging problems when extracting high-particulate samples. The use of glass fiber material reduces the need for higher vacuum flow rates during sample introduction and elution. Due to the depth-filter properties of this SPE disk, a high flow rate of 50-70mL/min. can be achieved with no decrease in recoveries or relative standard deviations (RSDs).

Procedure

Resprep™ resin disks provide a rapid, efficient alternative to liquid/liquid extraction for sample preparation. These disks can be used for purification and concentration of samples prior to final analysis. The enclosed instructions are general guidelines for use. Sample volume, solvent type, and conditioning may be changed for specific methods and analytes as needed.

Sample Preparation:

1. Adjust sample to pH 2.0 with 6N HCl.
2. If the sample is high in suspended solids, allow solids to settle. Tilting the sample container to allow particulates to settle on one side is suggested to aid in decanting of the liquid portion of the sample.

Extraction Disk Conditioning:

Proper disk conditioning is critical for a successful extraction. Conditioning provides a good interface between the sorbent and the sample matrix. Failure to condition the disk properly may result in erratic and low recoveries.

1. Center the extraction disk on the base of the filtration apparatus.
2. Wet the disk with 3mL of acetone.
3. Assemble the reservoir. If using glassware clamps, gently squeeze the jaws of the clamp to assure proper sealing. Apply vacuum to dry the disk.

4. Wash the disk with 10mL of isopropanol. Apply a small amount of vacuum and pull approximately 1mL through the disk. Vent the vacuum and allow the disk to soak for two minutes.
5. Add 10mL of methanol to the disk. Apply a small amount of vacuum and pull approximately 1mL through the disk. Vent the vacuum and allow the disk to soak for two minutes.
6. Apply vacuum and pull methanol through the disk until the methanol surface is 2–4mm above the surface of the disk.
7. Add 10mL of reagent-grade water to the reservoir. Apply a light vacuum and pull the reagent grade water through the disk until the surface is covered with about 2–4mm of water.

Sample Extraction:

1. Pour or decant the sample into the reservoir and apply vacuum. Decant and extract as much liquid as possible before adding sediment to the reservoir. Do not let the disk go dry before adding sediment. *Note: Recoveries ARE affected by flow rates. Do not allow the sample to flow through the disk faster than 10 minutes-per-liter. Flow may slow as particulates are added, and the vacuum level or valve may need to be adjusted.*
2. After sample extraction is complete, remove as much residual water as possible from the disk by applying vacuum to dry the disk for 5-20 minutes.

Sample Elution:

1. Put receiving vessel in place. Elute twice with 10mL of solvent. Smaller volumes of solvent may be used if the elution techniques have been validated previously. When adding elution solvent, rinse down the sides, washing the walls of the reservoir in the process.
2. Carefully apply vacuum to pull a few drops of solvent through the disk, and then release the vacuum. Allow the solvent to soak the disk for two minutes before applying full vacuum to remove residual solvent and dry the disk.
3. Repeat the process with a second aliquot of eluting solvent.
4. A third aliquot of elution solvent may be used as a final rinse of the reservoir and disk to enhance recoveries.

Call Technical Service at 800-356-1688 or 814-353-1300, ext. 4 (or your local Restek representative) if you have any questions about this product or any other Restek product.



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