

**SPE**Solid Phase  
Extraction

# Application Note

World Leaders in Sample Preparation

**SPE103****ISOLATION OF CHROMIUM, MANGANESE, IRON,  
COBALT, NICKEL, COPPER, AND ZINC  
FROM AQUEOUS SOLUTIONS****Spe-ed™ Cartridge**

Cat. No. 2003- Octadecyl C18/14%, 500mg/3mL.  
Process with *Spe-ed Mate*

**Sample Preparation**

Add 0.1mL of 5% 8 hydroxyquinoline in 0.5N HCl to 250mL of aqueous sample, then adjust to pH 8.5 with 5N ammonium hydroxide.

**Cartridge  
Conditioning**

2 x 3mL of methanol followed immediately by 3mL of water (pH 8.5/ammonia hydroxide).  
**DO NOT ALLOW CARTRIDGE TO RUN DRY!**

**Sample Addition**

Fill cartridge 2/3 full with sample solution. Insert universal adaptor on top of cartridge. Insert 75mL reservoir on top of adaptor. Fill reservoir with sample solution and aspirate through cartridge at 4-5mL/min. Add remaining sample solution to reservoir and do not allow the reservoir to empty until the last volume of sample solution is added. Aspirate all sample solutions from cartridge.

**Cartridge Wash**

2 sequential 0.5mL volumes of water (adjust pH to 8.5 with ammonium hydroxide). Air-dry cartridge under vacuum for 3-4 minutes.

**Analyte Elution**

3 sequential 0.5mL volumes of methanol. It may be necessary to evaporate sample and reconstitute in an analytically suitable solvent/solution.

**Note:** *Since sample matrix interferences and concentrations may vary from sample to sample, it may be necessary to adjust the wash and elution solvent/solution strength and/or volume to optimize isolation.*

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