Extraction of Metals

UCT Part Number:
EUTAX15Z (Tri-acetic Acid 500 mg/10 mL)

Metals: Tin, Nickel, Mercury, Copper, Chromium, Ruthenium

Matrix: Water, Blood, Biological Fluids, Organic Solvents & Tissue Homogenates

1. Sample Pre-treatment

- It is important when using ion exchangers to adjust the pH of both the sorbent and analytes of interest so that they are totally ionized. Information about the analyte pKa is important

Aqueous or Organic Solvent Samples:

- Adjust the sample to pH 7 with 100 mM dibasic sodium phosphate buffer or ammonium hydroxide then vortex

Whole Blood, Serum or Plasma:

a) To 1 ml of sample add 4 ml of D.I. H20 and vortex

b) Let stand 5 minutes and centrifuge for 10 minutes at 2000 rpm and discard pellet

c) Adjust to pH 9.0 with 100 mM dibasic sodium phosphate buffer or ammonium hydroxide

2. Column Conditioning

a) Add 3 ml of methanol and draw to waste

b) Add 3 ml of water and draw to waste

c) Add 3 ml of buffer pH 7.0 and draw to waste leaving sorbent wet

3. Sample Application

a) Apply the sample to the column at a rate of 1 ml per minute. A faster rate of application may exceed the rate of ion-exchange

4. Analyte Purification

a) Wash the column with 2 ml of pH 7.0 buffer used in column equilibration.

5. Elution

a) Elute with 3 ml of acidic methanol (2% HCl, pH 2.0).

Alternative eluants:

- Elute with 3 ml of acidic methanol (Formic acid to pH 2.0).
- Elute with 3 ml of 0.1 M Nitric Acid (pH 2.0).

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