AA: Quantitative Analysis of Copper
Procedure & Data

Preparation and Absorbances of Standard Copper Solutions

Three standard solutions are needed for a standard curve. A standard stock solution, which contains 5.0 mg of Cu^{2+} per liter of solution, has been prepared. You are to prepare two additional concentrations by serial dilution.: 2.50 ppm, and 1.25 ppm. An additional point on the standard curve is the origin, 0.0 mg/liter, which is the blank.

Check out two 50-mL volumetric flasks, two 25.00 mL pipets and a pipet bulb. Prepare the two solutions of 2.50 ppm and 1.25 ppm repectively. Save them.

Each group will develop a calibration curve from the absorbance of each of the standard concentrations.

Individual Sample Preparation and Analysis

The copper containing tablet will be treated so that all of the copper is in solution and a serial dilution made to produce a solution with a low enough Cu^{2+} concentration to be read in the atomic absorption spectrophotometer.

Check out a mortar & pestle, two 100-mL volumetric flasks, two 10.00 mL pipets and a pipet bulb.

1. Dissolve the copper in the tablet.

   Grind your unknown tablet in the mortar and pestle. Transfer to a 100 mL beaker. Add ~ 70 mL of 3 N HNO_3 and stir for ~5 minutes. Gravity filter directly into a 100.00 mL volumetric flask. and dilute to the mark with deionized water.

2. Dilute the tablet's solution.

   Using a 10.00 mL pipet, place a 10.00 mL aliquot of the tablet solution into a second 100.00 mL volumetric flask. Add deionized water to dilute to 100 mL.

3. Determine the absorbance of the diluted vitamin solution. Record on the Report Form.