

Chapter 5 – Calibration Methods

Objectives and Problems

At the end of this chapter you should:

- Understand the meaning of and difference between quality assurance and quality control
Problems: 5-1, 5-2, 5-3, 5-4, 5-5, 5-6, 5-7, 5-8
- Know how to produce, interpret, and use a control chart
Problems: 5-10 and Exercise 5-E
- Know and understand what is involved in method validation
Problems: 5-3
- Know and understand the use of standard addition and internal standards in method validation
Problems: 5-22, 5-23, 5-24, 5-25, 5-26, 5-27, 5-28, 5-29, 5-30, 5-31
- Understand the difference between the detection limit, identification limit, and quantitation limit
Problems: 5-12, 5-15, 5-18, 5-19, 5-20 and Exercise 5-A
- Be familiar with vocabulary associated with quality assurance and quality control
Problems: 5-4, 5-5, 5-6, 5-7, 5-8, 5-13

Vocabulary (be able to define the following terms):

- assessment
- calibration check
- control chart
- detection limit
- identification limit
- quantitation limit
- false negative
- false positive
- field blank
- method blank
- reagent blank
- internal standard
- matrix
- method validation
- quality assurance
- quality control
- robustness
- specificity (or selectivity)
- sensitivity
- spike
- standard addition