Chemistry 20

Lesson 29 – Titration Activity

**Problem:**

Determine the concentration of a hydrochloric acid solution by titration using a strong base.

**Materials:**

hydrochloric acid (10.0 mL/trial) 2 buret tubes - clean

0.10 mol/L sodium hydroxide solution buret clamp

phenolphthalein (2 drops/trial) buret brush

Erlenmeyer flask retort stand

beakers funnel

white paper

**Prelab work:**

1. Background Information:

Define the following terms *in your own words*:

titrant

endpoint

equivalence point

2. Experimental design - a) manipulated variable

b) responding variable

**Lab work:**

1. Procedure - read pages 328 to 338 and page 804.

- After the instructor demonstrates doing a titration, write a point form procedure *in your own words*.

2. Observations - data chart (rough + 3 trials)

3. Analysis.

The main assumptions are:

1. The reaction was complete.

2. The endpoint occurred at equivalence point.

3. The chemicals were uncontaminated.

Briefly discuss the significance of each assumption.

4. Conclusion:

A. Show your calculation for the concentration of hydrochloric acid.

B. Answer questions 1 to 7 on page 339 of the text.

**One write-up per person.**