

Name: _____

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Data and Calculations for Experiment 8

A. Standardization of NaOH(aq)

Data Table for Part A

	Sample 1	Sample 2
Mass of flask and KHP		
Mass of empty flask		
Mass of KHP		
Initial buret reading		
Final buret reading		
Volume of base used		

1. Moles of acid (KHP, Molar mass = 204.2)

Sample 1:

Sample 2:

2. Moles of base used to neutralize acid

Sample 1:

Sample 2:

3. Molarity of base (NaOH)

Sample 1:

Sample 2:

4. Average Molarity of Base (to be used in Part B)

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B. Molarity Determination of HCl(aq)

Volume of HCl solution used: _____

Data Table for Part B

	Sample 1	Sample 2
Initial buret reading		
Final buret reading		
Volume of base used		

1. Moles of base (NaOH) used

Sample 1:

Sample 2:

2. Moles of acid used to neutralize base

Sample 1:

Sample 2:

3. Molarity of acid (HCl)

Sample 1:

Sample 2:

4. Average Molarity of Acid

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Questions

1. A titration required 13.42 mL of 0.1638 M NaOH solution. How many moles of NaOH were in this volume?
2. A student weighed a sample of KHP and found it weighed 1.396 g. Titration of this KHP required 21.36 mL of base (NaOH). Calculate the molarity of the base.
3. Write and balance the equation for the neutralization of a sulfuric acid solution of unknown concentration by sodium hydroxide. Calculate the molarity of an unknown sulfuric acid solution if a 25.0 mL sample of the acid solution consumes 27.2 mL of 0.138 M NaOH solution in a titration.
4. What might happen to your calculated NaOH molarity if you used tap water instead of D.I. water to dissolve the KHP crystals or to rinse down the walls of the flask during the titration? *Hint: Tap water contains some calcium carbonate.*
5. In your own words, use the back of this page to write a cohesive, well-written summary of the background material and underlying chemical principles pertinent to this experiment. (For additional guidelines on writing this introduction, please refer to the **Moorpark College Chemistry Department Laboratory Report Rubric** found in the lab manual and department website.)