CHEM 1105: THERMOCHEMISTRY

Name: _____ Date:_____ Section_____

Objective:

Procedure:

As in Kwantlen Chemistry 1105 lab manual, pages _____.

Observations

Data

Table 1. Part 1: Enthalpy of solution of NaOH(s)

	Run 1	Run 2
Mass of NaOH and boat		
Mass of boat		
Mass of NaOH		
Volume of water		
Mass of water (density = 1.00 g/mL)		
Total mass of solution		
Initial temperature of water (T_1)		
Final temperature of water (T_2)		
ΔT		

Table 2. Part 2: Enthalpy of Neutralization of NaOH(s)

	Run 1	Run 2
Mass of NaOH and boat		
Mass of boat		
Mass of NaOH		
Volume of HCl		
Volume of HCl and water		
Mass of HCl and water (density = 1.00 g/mL)		
Total mass of solution		
Initial temperature of solution (T_1)		
Final temperature of solution (T_2)		
ΔT		

Table 3. Part 3: Enthalpy of Neutralization of NaOH(aq)

	Run 1	Run 2
Volume of HCl solution		
Volume of NaOH solution		
Total volume of solution		
Total mass of solution (density = 1.00 g/mL)		
Initial temperature of NaOH solution		
Initial temperature of HCl solution		
Average temperature of two solutions (T_1)		
Final Temperature (T_2)		
ΔT		

Calculations: Determine the enthalpy of each reaction

1) Reaction 1

2) Reaction 2

3) Reaction 3

4) Verify Hess' Law

In the space provided below, write out the three chemical equations performed in the lab. Show that one of the three reactions is the sum of the other two by chemically adding the two reactions together. Next, show that this summation is confirmed by the summation of the ΔH values that you have determined. Finally, calculate the percent deviation between the two supposedly equal values.

Conclusion:

Questions

Attach any assigned questions.