- ☐ Focused attention
- ☐ Carefully follow procedures
- ☐ Work only within lab groups
- ☐ Hushed voices
- ☐ Safe procedures

Name: _____

Per: _____

Percent Yield Lab

I. Purpose: During this lab, you will carry out an acid/base reaction; the base being your limiting reactant, with acid in excess. By collecting the ionic solid product, a percent yield will be calculated.

II. Procedure:

1) Clean (with water) and dry an evaporating dish & a watch glass
2) Weigh the dish and the watch glass
3) Add approximately 1.0 grams $NaHCO_3$ to the dish
4) Reweigh the dish/watch glass with the $NaHCO_3$
5) React, while stirring, the base with excess 1M HCl until complete
6) Isolate the NaCl by evaporating the water, with the watch glass over dish
7) After cool, reweigh evaporating dish/watch glass with product
8) Rinse dish and watch glass, clean up lab area, return watch glass

III. Data

Mass Dish/Glass	
Mass Dish/Glass + $NaHCO_3$	
Mass Dish/Glass + Product	

V. Calculations

A) Write the balanced equation for the acid/base reaction performed.

$$NaHCO_3 + HCl \rightarrow NaCl + CO_2 + H_2O$$

B) Calculate the mass of $NaHCO_3$ you began with in the reaction.

V. Calculations

C) Do all the calculations necessary to determine the percent yield for this reaction

Actual yield:

Theoretical yield:

Percent yield:

VI. Conclusions

Discuss the possible reasons your percent yield was not 100%.

In the purpose, the base was identified as the limiting reactant and the acid as being in excess. Explain what this means.

In general, why is it impossible to have higher than 100% yield? How can yields over 100% be explained?