

Name: _____

SCH 4C Decomposition of Either Na₂CO₃ or NaHCO₃

Purpose: Given either Na₂CO₃ or NaHCO₃ (mystery carbonate) use a double displacement decomposition reaction and stoichiometry to correctly identify which carbonate you were given.

Experimental Data:

mass empty crucible (and lid)	g
mass crucible plus carbonate	g
mass crucible plus NaCl after heating	g

Concluding Questions:

1. Using the standard three line calculation (see Mg lab for details) determine the mass of carbonate that you actually reacted (probably 1.000 g).

2. Write a balanced chemical equation for the reaction of Na₂CO₃ with HCl.

8. Using the formula given below, determine your percent error for your experiment.
- the experimental mass is the mass of NaCl that you obtained and measure in the experiment (#6 above)
 - the theoretical mass is the mass of NaCl that you would expect to form based on stoichiometric theory (either #3 or #5 from above)
 - the numerator has "absolute value" bars, which means ignore the negative if the theoretical value happens to be larger than the experimental value

$$\% \text{ error} = \frac{|\text{experimental mass} - \text{theoretical mass}|}{\text{theoretical mass}} \times 100 \%$$