

Before beginning your experiment this week, ask your TA to sign and approve the amount of chemicals that will be used experimentally.

3. Perform the reaction of $\text{Na}_2\text{CO}_3(\text{s})$ with HCl and determine from the measured pressure how much CO_2 gas was produced experimentally.
- Inspect glassware for cracks before start.
 - Assemble equipments. (Hold stopper and flask tightly to avoid gas leakage.)
 - Refer to Appendix E of the lab manual for information about collecting pressure data.
 - **Should finish 3 trials for this reaction.**
 - **Do not allow any liquids to enter the opening of the pressure sensor.**
 - Determine the experimental gas pressure of CO_2 produce from the reaction of $\text{Na}_2\text{CO}_3(\text{s})$ with HCl .
- Calculate the theoretical yield of gas and the percent yield for each trial.
4. Perform the reaction of $\text{CaCO}_3(\text{s})$ with HCl and determine from the measured pressure how much CO_2 gas was produced experimentally.
- **Should finish 3 trials for this reaction.**
 - **Do not allow any liquids to enter the opening of the pressure sensor.**
 - Determine the experimental gas pressure of CO_2 produce from the reaction of $\text{CaCO}_3(\text{s})$ with HCl .
- Calculate the theoretical yield of gas, percent yield, and percent error for each trial.
5. After the experiment:
- Solutions should go into the liquid waste bottle.
 - Turn in the copies of notes.
 - Calculate the average percent yield for each solid.

Results (2 pts)

- Include the balanced equations with proper physical states for reactions done in the lab.
- Show one sample calculation for each of the following:
 - Theoretical amount of reactants according to the provided or measured parameters
 - Theoretical amount of produced gas for each reaction
 - Experimental amount or produced gas for each reaction
 - Percent yield of one trial for each reaction (experimental P_{CO_2} / theoretical P_{CO_2} \times 100% or experimental P_{CO_2} / theoretical P_{CO_2} \times 100%)
 - Percent error of one trial for each reaction (experimental-theoretical / theoretical \times 100%)
- Create a table with the following data:
 - The amount of reactants used in each trial for each reaction
 - The gas pressure measured before and after each trial