Alloy experiment

2 Component Alloy – Grading Rubric

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| --- | --- | --- | --- |
| Lab Notebook | |  | /15 |
|  | Data/Log/Observations | /5 |  |
|  | Signature and Stamp | /5 |  |
|  | Procedure | /5 |  |
| Formal Report | |  | /50 |
|  | Title Page | /2 |  |
|  |  |  |  |
|  | Procedure | /4 |  |
|  | Data Summary/ Calculations | /5 |  |
|  | Discussion | /10 |  |
|  | Conclusion | /5 |  |
|  | Post lab questions | /24 |  |
| Computer Printout | |  | /35 |
| Total | |  | /100 |

Informal Report should include

1. Title page
2. Procedure – reference the published procedure
3. Data summary and calculation section - May be handwritten either in the lab book or on a separate sheet of paper or use calc page from spreadsheet. Calculations – Show clearly how you solved for the percent composition include demonstrations of your logic.
4. Post-lab Questions - may be handwritten either in the lab book or on a separate sheet of paper. A template for the questions is attached at the end of this document.
5. Discussion – Discuss how good you believe your data is also discuss any possible sources of error in your experiment. Discuss how close your two values for alloy composition are to each other.
6. Conclusion - give the percent of each metal in your alloy
7. Computer printout from excel
8. Original data etc from the lab book.

Alloy Post-Lab Questions

1. Why was it not necessary to discard and refill the generator flask with fresh 6*M* HCl for subsequent reactions? Show a calculation to demonstrate your reasoning.
2. In an experiment similar to yours, students were given an unknown sample that produced H2S or NH3 gas. What problem(s), if any, might arise if the same procedures as this experiment were followed?
3. Why is it not necessary to consider the amount of air that was in the generator flask at the start of the reaction?
4. If there was a leak in the rubber tubing that allowed approximately 150mL of H2 to escape, how would it affect the relative amounts (% values) that you calculated as the results? Show a calculation to justify your answer. (Would the final result indicate a higher or lower percentage of zinc?)
5. What assumptions do we make regarding the temperature of the generator flask? (i.e. Are the generator and collection flasks equilibrated?) Are they valid?
6. How would the calculated number of moles of H2 collected change if the generator flask and collection flask were not given time to fully equilibrate?