

- PURPOSE:**
1. To calculate theoretical and actual yield for the precipitate in the reaction of lead (II) nitrate and potassium iodide.
 2. To calculate the percentage yield.

HYPOTHESIS: Predict the amount of product you will theoretically achieve.

MATERIALS

- | | |
|----------------------|------------------|
| 2 – 250mL beakers | 1 – funnel |
| 1 - 400mL beaker | 1 – filter paper |
| 2 – Stirring rods | 1 – water bottle |
| 1 – Erlenmeyer flask | |

PROCEDURES

1. Obtain and record accurately the mass of a piece of filter paper.
2. Obtain accurately as close to 0.50g of $\text{Pb}(\text{NO}_3)_2$ and 0.75g of KI.
3. Put the salts into clean dry 250mL beakers.
4. Add approximately 75mL water and stir to dissolve solutes.
5. Combine the two solutions into a clean dry 400mL beaker
6. Filter the residue from filtrate into the Erlenmeyer flask.
7. Place residue in funnel on flask into fume hood to dry until next class.
8. Record the mass of filter paper plus residue.

DATA and OBSERVATIONS

This is where you record all information you need or observe during the lab. Examples include mass of filter paper, colour and mass of reactants and products etc.

CALCULATIONS

1. Formulate the chemical equation for the reaction observed and practiced.
2. Using the mass of the limiting reactant, calculate the theoretical yield for the precipitate, PbI_2 . (this is your hypothesis)
3. Obtain the actual yield of PbI_2 residue on filter paper.
4. Calculate the percentage yield.

DISCUSSION

1. Discuss how the lab went and indicate sources of error.
2. How would you change the lab to improve your percent yield?

CONCLUSION

Answer the objectives stated in the purpose.