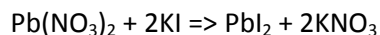


Stoichiometry: Gravimetric analysis of lead iodide

Lead nitrate reacts with potassium iodide to form a precipitate known as lead iodide according to the equation below.



Apparatus

10mL pipette
 0.1M solutions of lead nitrate and potassium iodide
 Funnel
 Filling bulb
 Distilled water
 2 100 mL beakers
 Filter paper

Method

- Weigh a piece of filter paper.
- Pipette 10 mL of lead nitrate solution into a beaker.
- Pipette 10 mL of potassium iodide solution into the same beaker and notice the formation of the yellow solid (lead iodide)..
- Filter the mixture as shown on the right.
- Using distilled water rinse any remaining solid into the filter paper.
- Allow the filter paper and funnel to dry overnight.

Record the results in a table

Item	Mass (grams)
Filter paper	
Filter paper and lead iodide	
Mass of lead iodide	

Questions

- a) What is the mass of lead iodide formed?
- b) Calculate the number of moles of lead iodide formed.
- c) Consider the balanced equation for this reaction

$$\text{Pb}(\text{NO}_3)_2 + 2\text{KI} \Rightarrow \text{PbI}_2 + 2\text{KNO}_3$$
- d) For every mole of lead nitrate reacted how many mole of potassium iodide formed?
- e) How many mole of potassium iodide reacted to form the mass of lead iodide ?
- f) What mass of potassium iodide reacted?