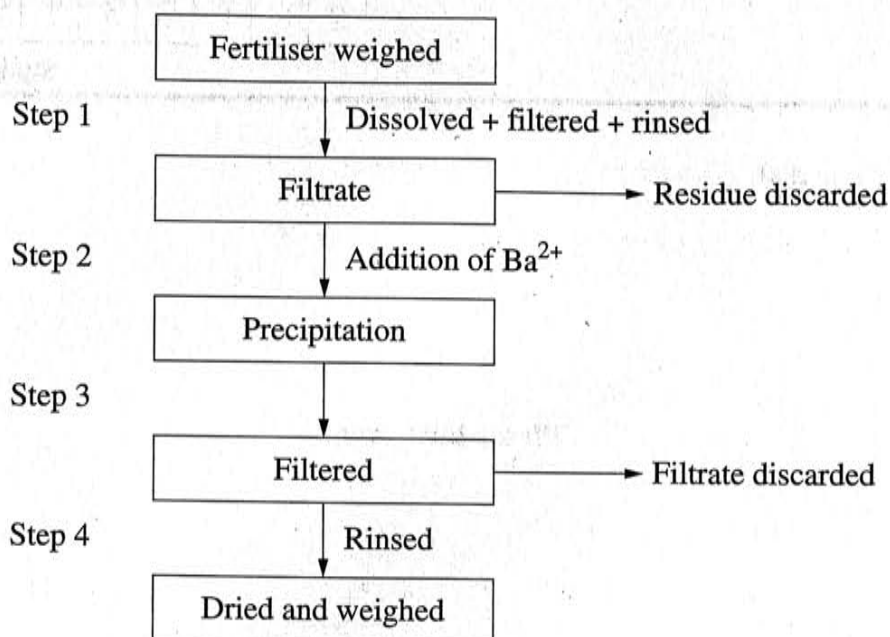


Question 29 (6 marks)

The flowchart shown outlines the process used to determine the amount of sulfate present in a sample of lawn fertiliser.

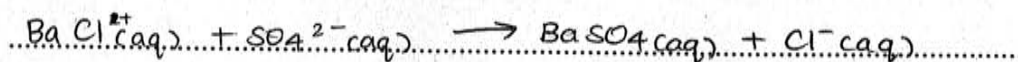


- (a) What assumptions were made and how do these affect the validity of this process? 3

This experiment is not valid as rinsing needs to be rinsed in distillation water, to ensure no residues are left in the filtrate. To ensure validity, this process needs to be done at least three times and average out the results. Some of the residue mentioned after step 1 makes this experiment invalid, because of the residue being discarded. This can affect the overall result.

- (b) It was found that 4.25 g had a sulfate content of 35%. 3

What is the mass of the dried precipitate at Step 4? Include a chemical equation in your answer.



$$M(\text{BaSO}_4) = (32.07 + 16 \times 4) = 96.07$$