CHAN CHI HEI

6LS(1)

Title

Standardisation of sulphric acid

Aim

To determine the concentration of a sulphuric acid by titration against a standard solution of sodium carbonate just prepared

Result

	Trial	1st	2nd	3rd
Final Burette Readings/cm^3	10.20	14.80	19.50	24.10
Initial Burette Readings/cm^3	5.00	10.20	14.80	19.50
Volume used/ cm^3	5.20	4.60	4.70	4.60
Mean volume used/ cm^3	4.63			

Calculation

$Na_2CO_{3(aq)}+H_2SO_{4(aq)} \rightarrow Na_2SO_{4(aq)}+H_2O_{(l)}+CO_{2(g)}$

Since Na_2CO_3: H_2SO_4 = 1:1

No of mol in H_2SO_4 = 0.1 x (25/1000)

$= 2.5 \times 10^{-3}$ mol

Then the concentration of H_2SO_4 = $(2.5 \times 10^{-3}) / (4.63/1000)$ = 0.5399M

Discussion

During the experiment ,there may be some possible error and some of them can be minimized. First, the water inside the burrete may affect the concentration of sulphuric acid. To prevent this , we need to rinse the burrete with sulphuric acid. Also , we need to make sure the top of burrete is filled of s sulphuric acid.

Simiarly , the pipette should be rinsed with the sodium carbonate solution before.

Also, our eye level should be horizontal to that of the water level so that the data recorded will be more accurate.

And there are also a precaution during the experiment. Gloves and safety goggles should be weared to prevent the acid contact with our bodies.

After doing the experiment , I think some improvements can be made. During titration , I find that the sodium carbonate solution contain some white solid. And they are probably the undissolved sodium carbonate. In order to solve this problem , next time before the titration begins, strring the sodium carbonate solution is necessary.

Conclusion

The concentration of the sulphuric acid is 0.539M.