24th June, 2019

Experiment 01:

Data Collection:

|  |  |  |  |
| --- | --- | --- | --- |
| Reading No. | Initial Burette  Reading / | Final Burette  Reading / | Difference  (IBR – FBR) / |
| 01 |  |  |  |
| 02 |  |  |  |
| 03 |  |  |  |

Calculation:

Average volume of acid used

Concentration of base

Percentage error

Experiment No. 1

Name of Experiment: STANDARDIZATION OF NAOH SOLUTION WITH STANDARD OXALIC ACID SOLUTION

Theory:

A standard solution of oxalic acid is used to find the standardize of a secondary standard solution of . Since oxalic acid is a primary standard solution, it does not change its purity over a long period of time. So, this property can be used to measure the instant concentration of the secondary solution.

Chemicals Used:

Oxalic acid, sodium hydroxide solution, phenolphthalein indicator

Apparatus Required:

Pipette, Burette, Conical Flask

Procedure:

1. was taken in a conical flask with a pipette. This is then diluted to roughly using distilled water.
2. 1 – 2 drops of the phenolphthalein indicator were added to the solution.
3. A burette was used to add standard oxalic acid to the solution. The initial burette reading is taken beforehand. The acid was added drop by drop and the conical flask was continuously shaken.
4. The burette was turned off immediately when the solution lost its colour.
5. The final burette reading was taken. Care was taken to use the lower meniscus.
6. The steps were repeated multiple times until the results seemed fairly accurate. The average of the most accurate results was used in calculations.
7. The normality of the solution was calculated using the following formula:

Data:

|  |  |  |  |
| --- | --- | --- | --- |
| IBR / | FBR / | Difference / | Mean / |
|  |  |  |  |
|  |  |  |
|  |  |  |

Calculation:

Results:

The concentration of the solution was .

Percentage Error:

Percentage Error

Discussion:

Before the experiment, the burette was washed and rinsed with oxalic acid. A pipette was also used to measure and pour out the exact amount of oxalic acid required. Both these steps ensured the concentration and volume of the acid used remained fairly accurate.