Data and Results Entry Form-7

**EXPERIMENT-7: DETERMINATION OF FERROUS ION (Fe2+) IN A SUPPLIED SOLUTION OF IRON SALT BY STANDARD POTASSIUM PERMANGANATE (KMnO4) SOLUTION.**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, ID: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, Section: \_\_\_\_\_\_\_\_\_**

**EXPERIMENTAL DATA:**

**(A)** Standardize *the KMnO4 solution by standard Na2C2O4 solution*.

**Table-1:** *Standardization of supplied KMnO4 solution by standard Na2C2O4 solution*.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***No. of reading*** | ***Vol. of Oxalate solution ( in mL)*** | ***Vol. of KMnO4***  ***(burette reading) (in mL)*** | | | ***Mean***  ***(in mL)*** |
| ***Initial*** | ***Final*** | ***Difference*** |
| 1 | 10 | 0.00 | 9.10 |  |  |
| 2 | 10 | 9.10 | 18.30 |  |

*The strength of Na2C2O4 solution* =  (N)

*The strength of supplied KMnO4 solution*: VKMnO4 x NKMnO4 (**S**)= VNa-oxalate x NNa-oxalate

**(B) Estimation of Fe ions:**

**Table-2:** *Determination of the amount of iron in Mohr’s salt solution using standard KMnO4 solution*.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| ***No. of reading*** | ***Vol. Of Mohr’s salt solution (in mL)*** | ***Vol. Of KMnO4***  ***(burette reading) (in mL)*** | | | ***Mean (in mL)* (V)** |
| ***Initial*** | ***Final*** | ***Difference*** |
| 1 | 10 | 18.30 | 23.30 |  |  |
| 2 | 10 | 23.30 | 28.20 |  |
| 3 | 10 | 28.20 | 33.30 |  |
| 4 | 10 | 33.30 | 38.20 |  |

**CALCULATIONS:** 1 mL 1N KMnO4  ≡ 0.05584 gm of Fe2+

*Amount of iron in 10 mL of iron salt solution* = 0.05584 × V × S gm

=

*Amount of iron in 500 mL of iron salt solution* = 0.05584 × V × S × 50 gm

**=**

*Observe value of Fe2+ (in 500mL solution)* =

*Known value of Fe2+ (in 500mL solution)* =

**RESULTS:**

*The amount of ferrous ions in 500 mL of iron salt solution is ………………….gm*

**PERCENTAGE OF ERROR:**

  =