Sr. No. in Scope NABL / NON NABL

**FLOW CHART FOR ANALYSIS OF GLYPHOSATE CONTENT BY UV SPECTROPHOTOMETER**

|  |  |  |  |
| --- | --- | --- | --- |
| **Date of Analysis** | |  | |
| **Sl. No.** | **Step** | **Execution** | | | | **Executed By** | |
| 1. | Sample No. | **R1** | | **R2** | |  | |
| 2. | Name of Sample |  | |  | |  | |
| 2.1 | Sample Description |  | |  | |  | |
| 3. | **Procedure** |  | |  | |  | |
| 3.1 | **Preparation of Standard Solution:** |  | |  | |  | |
| 3.1.1 | Purity of Standard. |  | |  | |  | |
| 3.1.2 | Weigh 0.1gm of A.I of standard in 100 ml water containing 2 drops of Sulfuric acid (1:1)(Stock A) |  | |  | |  | |
| 3.1.3 | Note serial number in logbook of balance |  | |  | |  | |
| 3.1.4 | Transfer by pipette 25ml of stock A (3.1.2) solution into a 100ml volumetric flask. |  | |  | |  | |
| 3.1.5 | Add 25 ml water, and 5 mL of 1:1 Sulfuric acid |  | |  | |  | |
| 3.1.6 | Add 1 ml of 25% Potassium bromide and 5 ml of 0.2(N) Sodium nitrite. |  | |  | |  | |
| 3.1.7 | Dilute it upto the markwith water, stopper the flask, mix the contents well & keep it for 30 minutes. (Stock B) |  | |  | |  | |
| 3.1.8 | Pipette out 5 ml of solution from stock B (3.1.7) to 100 ml in a volumetric flask. (Stock C) |  | |  | |  | |
| 3.1.9 | Measure the absorbance of stock C (3.1.8) at 243 nm, in 1 cm quartz cell against reagent blank. |  | |  | |  | |
| 3.2. | **Preparation of sample solution:** |  | |  | |  | |
| 3.2.1 | Note down the percent active ingredient content declared on the sample |  | |  | |  | |
| 3.2.2 | Weigh 0.1gm of A.I of sample in 100 ml volumetric flask and dissolve in water containing 2 drops of Sulfuric acid (1:1)(Stock D) |  | |  | |  | |
| 3.2.3 | Note serial number in logbook of balance |  | |  | |  | |
| 3.2.4 | Transfer by pipette 25ml of stock D (3.2.) solution into a 100ml volumetric flask. |  | |  | |  | |
| 3.2.5 | Add 25 ml water and 5 mL of 1:1 Sulfuric acid |  | |  | |  | |
| 3.2.6 | Add 1 ml of 25% Potassium bromid and5 ml of 0.2(N) Sodium nitrite. |  | |  | |  | |
| 3.2.7 | Dilute it upto the mark with water, stopper the flask, mix the contents well & keep it for 30 minutes.  (Stock E) |  | |  | |  | |
| 3.2.8 | Pipette out 5 ml of solution from stock E (3.2.7) to 100 ml in a volumetric flask. (Stock F) |  | |  | |  | |
| 3.2.9 | Measure the absorbance of stock F (3.2.8) at 243 nm, in 1 cm quartz cell against reagent blank. |  | |  | |  | |
| **3.3** | **Preparation of Reagent Blank:** |  | |  | |  | |
| 3.3.1 | Prepare a reagent blank with all the reagents except the sample and proceed as per the steps from 3.1.2 to 3.1.4 . |  | |  | |  | |
| 6 | UV Parameters: |  | |  | |  | |
| 6.1 | Wave length 243 nm |  | |  | |  | |
| 6.2 | Reference cell 1 cm |  | |  | |  | |
| 6.3 | Sample cell 1 cm |  | |  | |  | |
| **7** | Result: |  | |  | |  | |
| 7.1 | Sample chromatogram no |  | |  | |  | |
| 7.2 | Standard chromatogram no |  | |  | |  | |

**8. Calculation:**

|  |  |
| --- | --- |
| A x M x P X F  Glyphosate content, % by mass =………………………  B x m | **Where ,**  A = absorbance of sample solution  B = absorbance of standard solution  M= mass in grams of pure Glyphosate taken   for preparation of standard solution.  P = percentage purity of Glyphosate used   for preparation of standard solution  m= mass in grams of material taken for the   preparation of sample solution  F= Factor for glyphosate = 1.3486 |

**Result:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. No.** | **Name of Test** | **Result** | **Unit** | **Method of Analysis** |
| 1. | Active ingredient (Glyphosate) |  | % | IS-12502-1988 |
| Reference in Daily workbook: | | | | |

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| --- | --- | --- |
| Analyzed by | Name |  |
| Dated signature |  |
| Checked by | Name |  |
| Dated signature |  |