|  |  |
| --- | --- |
| Sr. No. in Scope  | NABL / NON NABL |

**Flow chart for analysis of Butachlor in formulation sample**

|  |  |
| --- | --- |
| **Date of Analysis**  |  |
| **Sl. No.** | **Step**  | **Execution** | **Executed By**  |
| 1. | Sample No. |  |  |
| 2. | Name of Sample |  |  |
| 3. | **Procedure** |
| **3.1** |  **Preparation of Internal Standard solution** |  |  |
| 3.1.1 | Weigh 0.5 g of Di Octyl Adipate (DOA) in a 50 mL volumetric flask |  g |  |
| 3.1.2 | *Note down the S.No. in balane log book* |  |  |
| 3.1.3 | Dissolve and dilute up to the mark with Acetone. |  |  |
| **3.2** | **Preparation of Standard solution** |  |  |
| 3.2.1 | Purity of the standard |  % |  |
| 3.2.2 | Weigh 0.5 g a.i. of the standard in 50 mL volumetric flask  |  g |  |
| 3.2.3 | *Note down the S.No. in balance log book* |  |  |
| 3.2.4 | Dissolve the standard and make up to the mark with acetone (Stock A). |  |  |
| 3.2.5 | Pipette out 1 mL of Stock A (3.2.4) . |  |  |
| 3.2.6 | Add 1mL of internal standard solution (3.1.3) and shake well. |   |  |
| 3.2.7 | Inject 2ul of solution prepared by mixing 1 mL of stock A (3.2.4) and 1 mL internal standard solution (3.1.3) |  |  |
| **3.3** | **Preparation of Sample solution**  |  |  |
| 3.3.1. |  Note down the percent active ingredient declared on the sample. |  % |  |
| 3.3.2 |  Weigh 0.5 g a.i. of the sample in a 50 mL volumetric flask.  |  g |  |
| 3.3.3 | *Note down the S.No. of balance log book* |  |  |
| 3.3.4 | Dissolve the sample and make up to the mark with acetone (Stock B) |  |  |
| 3.3.5. |  Pipette out 1 mL of Stock B (3.3.4) . |   |  |
| 3.3.6. |  Add 1mL of internal standard solution (3.1.3) and shake well. |  |  |
| 3.3.7. | Inject 2ul of solution prepared by mixing 1 mL of stock B (3.3.4) and 1 mL internal standard solution (3.1.3) |  |  |
| 4. | **GC Parameters** |  |  |
| 4.1 | **Column :**  10 % DC-200 on Chromosorb WHP (80-100) mesh |  |  |
| 4.1.1 | Length: 2 m  |  |  |
| 4.1.2 | I.D: 3 mm |  |  |
| **4.2** | **Gas Flow:** |  |  |
| 4.2.1 | Carrier:Nitrogen: 40 mL/min |  |  |
| 4.2.2 | Hydrogen: 45 mL/min  |  |  |
| 4.2.3 | Air: 450 mL/min  |  |  |
| **4.3** | **Temperature** |  |  |
| 4.3.1 | Oven: 240°C |  |  |
| 4.3.2 | Injector: 270°C |  |  |
| 4.3.3 | Detector: 270°C |  |  |
| **4.4** | **Injection Volume**: 2 µl |  |  |
| 5. | **Result**  |  |  |
|  | Sample chromatogram no. |  |  |
|  | Standard chromatogram no. |  |  |

**6. CALCULATION:**

|  |  |
| --- | --- |
| Butachlor content, % by mass =A1 x A’IS’2 x M2 ---------------------- x PA2 X A’IS’1 X M1 |  **Where,** A1 = Peak area of Butachlor in the sample solutionA’IS’1 = Peak area of internal standard in the sample solutionA’IS’2 = Peak area of internal standard in the standard solutionA2 = Peak area of Butachlor in the standard solutionM1 = Mass in ’g’ of sample taken for test M2 = Mass in ’g’ of Butachlor standard P = Percent purity of Butachlor standard |

 **Result:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S1.No.** | **Name of test** | **Result** | **Unit** | **Method of Analysis**  |
| 1. | Active ingredient |  | % | IS: 9355: 1980( Reaffirmed 2007 ) |
| Remark / Reference : |
| Analyzed by | Name  |  |
| Dated signature |  |
| Checked by | Name  |  |
| Dated signature |  |