Sr. No. in Scope NABL / NON NABL

 **Flow chart for analysis of Lambda Cyhalothrin content 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** |  |  |
| 3.1.1 | Weight of 2,6-Dinitrotoluene taken in 1000 ml volumetric flask |  g |  |
| 3.1.2 | Dissolve and dilute up to the mark with hexane |  |  |
| **3.2 Preparation of Standard** |  |  |
| 3.2.1 | Standard weight taken in 50/25 ml volumetric flask | g |  |
| 3.2.2 | Purity of standard | % |  |
| 3.2.3 | Add internal standard solution (3.1.2) | ml |  |
| 3.2.4 | Dilute up to the mark with hexane |  |  |
| 3.2.5 | Take the solution (3.2.4) to a 50/25 ml volumetric flask | ml |  |
| 3.2.6 | Dilute up to the mark with hexane |  |  |
| **3.3 Preparation of Sample** |  |  |
| 3.3.1 | Weight of the sample taken  | g |  |
| 3.3.2 | Dissolve in about 50/25 ml of hexane |  |  |
| 3.3.3 | Add internal standard solution (3.1.2) | ml |  |
| 3.3.4 | Dilute up to the mark with hexane |  |  |
| 3.3.6 | Take the solution (3.3.4) to a 50/25 ml volumetric flask | ml |  |
| 3.3.7 | Dilute up to the mark with hexane |  |  |
| 4. | **HPLC Parameters** |  |  |
| **4.1 Column** |  |  |
| 4.1.1 | Stainless Steel packed with Partisil Silica 5 µ  |  |  |
| 4.1.2 | Length: 25 cm |  |  |
| 4.1.3 | I.D.: 4.5 mm |  |  |
| **4.2 Mobile Phase** |  |  |
| 4.2.1 | Hexane : Tetrahydrofuran (99.5 : 0.5) |  |  |
| 4.2.2 | Flow Rate: 1.5 ml/min |  |  |
| **4.3 Detector:** UV |  |  |
| **4.4** **Wave Length**: 235 nm |  |  |
| **4.6 Injection Volume:** 20µl |  |  |
| 5. | **Result** |  |  |
| Sample chromatogram no.  |  |
| Standard chromatogram no.  |  |

**6. Calculation:**

 A2 x A3 x M1

 Lambda-cyhalothrin content, % by mass = ------------------- x P

 A1 x A4 x M2

**Where,**

M1 =Mass in ‘g’ of lamda-cyhalothrin standard

 M2 =Mass in ‘g’ of sample taken for test

 A1 = Peak area of lamda-cyhalothrin in the standard solution

 A2 = Peak area of lamda-cyhalothrin in the sample solution

 A3 = Peak area of internal standard in the standard solution

 A4 = Peak area of internal standard in the sample Solution

 P = Percent purity of lamda-cyhalothrin in the standard

**Result:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. No.** | **Name of test** | **Result** | **Unit** | **Method of Analysis**  |
|  | Active ingredient |  | % | IS 12005:1987 |
| Remark / Reference : |

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