Sr. No. in Scope NABL/ NON NABL

 **Flow chart for analysis of Alphacypermethrin 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 Benzyl benzoate taken in 100 ml volumetric flask |  g |  |
| 3.1.2 | Dissolve and dilute up to the mark with toluene |  |  |
| **3.2** **Mobile Phase** |  |  |
| 3.2.1 | Di-isopropyl ether: n-pentane (3 : 97) |  |  |
| **3.3 Preparation of Standard** |  |  |
| 3.3.1 | Standard weight taken in 100 ml volumetric flask |  g |  |
| 3.3.2 | Purity of standard |  % |  |
| 3.3.3 | Add internal standard solution (3.1.2) |  ml |  |
| 3.3.4 | Ultrasonicate for about 5 minutes |  |  |
| 3.3.5 | Dilute up to the mark with mobile phase (3.2.1) |  |  |
| **3.4 Preparation of Sample** |  |  |
| 3.4.1 | Weight of the sample taken in 100 ml volumetric flask | g |  |
| 3.4.2 | Add internal standard solution (3.1.2) |  ml |  |
| 3.4.3 | Ultrasonicate for about 5 minutes |  |  |
| 3.4.4 | Dilute up to the mark with mobile phase (3.2.1) |  |  |
| 4. | **HPLC Parameters** |  |  |
| **4.1 Column** |  |  |
| 4.1.1 | Stainless Steel packed with Silica, Particle Size 5 µ  |  |  |
| 4.1.2 | Length: 250 mm |  |  |
| 4.1.3 | I.D.: 4.6 mm |  |  |
| 4.1.4 | Flow Rate: 1.5 ml/min |  |  |
| **4.2 Detector:** UV |  |  |
| **4.3** **Wave Length**: 280 nm |  |  |
| **4.4 Injection Volume:** 20 µl |  |  |
| 5. | **Result** |  |  |
| Sample chromatogram no.  |  |
| Standard chromatogram no.  |  |

**6. Calculation:**

 A2 x A3 x M1

Alpha-cypermethrin content, % by mass = ------------------- x P

 A1 x A4 x M2

**Where,**

M1 = mass in ‘g’ of standard alphacypermethrin

 M2 = mass in ‘g’ of sample taken for the test

 A1 = peak area of internal standard in standard solution

 A2 = peak area of alphacypermethrin in standard solution

 A3 = peak area of alphacypermethrin in sample solution

 A4 = peak area of internal standard in sample solution

 P = percent purity alphacypermethrin standard

**Result:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl. No.** | **Name of test** | **Result** | **Unit** | **Method of Analysis** |
| 1. | Active ingredient |  | % | IS 15616:2006 |
| Remark / Reference : |

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