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

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Date of Analysis** | |  | |
| **S.No.** | **Step** | | **Execution** | | **Executed**  **By** |
| 1. | Sample No. | |  | |  |
| 2. | Name of Sample | |  | |  |
| 3. | **Procedure** | | | | |
| **3.1** | **Preparation of Internal Standard** | | | | |
| 3.1.1 | Weigh 0.5 g of Di (2-ethylhexyl) Phthalate (DOP) in a 100 mL volumetric flask. | | g | |  |
| 3.1.2 | *Note down the S.No. of balance log book* | |  | |  |
| 3.1.3 | Dissolve and dilute up to the mark with chloroform | |  | |  |
| **3.2** | **Preparation of Standard Solution** | | | | |
| 3.2.1 | Purity of standard | | % | |  |
| 3.2.2 | Weight 0.075 g standard in a 50 mL volumetric flask | | g | |  |
| 3.2.3 | *Note down the S.No. of balance log book* | |  | |  |
|  | Add 5 mL of internal standard solution (3.1.3) | | mL | |  |
| 3.2.4 | Make up to the mark with chloroform | |  | |  |
| **3.3** | **Preparation of Sample Solution** | |  | |  |
| 3.3.1 | Note down the percent active ingredient content declared on the sample | | % | |  |
| 3.3.2 | Weigh sample so as to contain 0.075 g a. i. in a 50 mL volumetric flask | | g | |  |
| 3.3.3 | *Note down the S.No. of balance log book* | |  | |  |
|  | Add 5 mL of internal standard solution (3.1.3) | |  | |  |
| 3.3.4 | Make up to the mark with chloroform. | |  | |  |
| 4. | **GC Parameters** | |  | |  |
| **4.1** | **Column :** SS packed with 5 % OV 101 on chromosorb WHP (80-100) mesh | |  | |  |
| 4.1.1 | Length: 50 cm | |  | |  |
| 4.1.2 | I.D: 0.3 mm | |  | |  |
| **4.2** | **Gas** | |  | |  |
| 4.2.1 | Carrier:Nitrogen: 30 mL/min | |  | |  |
| 4.2.2 | Hydrogen: 45 mL/min | |  | |  |
| 4.2.3 | Air: 450 mL/min | |  | |  |
| **4.3** | **Temperatures** | |  | |  |
| 4.3.1 | Oven: 2400C | |  | |  |
| 4.3.2 | Injecter: 2600C | |  | |  |
| 4.3.3 | Detector: 2800C | |  | |  |
| **4.4** | **Injection Volume:** 1 µl | |  | |  |
| 5. | **Result** | |  | |  |
| Sample chromatogram no | |  | |  |
| Standard chromatogram no | |  | |  |

**6. CALCULATION:**

A1 x A’IS’2 x M1

Fenvalerate content, % by mass = ------------------------ X P

A’IS’1 x A2 x M2

**Where,**

A1 = Peak area of fenvalerate in the sample solution

A’IS’1 = Peak area of internal standard in the sample solution

A’IS’2 = Peak area of internal standard in the standard solution

A2 = Peak area of fenvalerate in the standard solution

M1 = Mass in ‘g’ of standard fenvalerate in the standard solution

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

P = Percent purity of fenvalerate standard

**Result:**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **S1 No.** | **Name of test** | | **Result** | | **Unit** | **Method of Analysis** |
| 1. | Active ingredient | |  | | % | IS: 12003 – 1987 |
| Remark / Reference: | | | | | | |
| Analyzed by | | Name | |  | | |
| Dated signature | |  | | |
| Checked by | | Name | |  | | |
| Dated signature | |  | | |