Sr. No. in Scope NABL / NON NABL

**Flow Chart for Analysis of Quizalofop Ethyl Content in Formulation Sample**

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| **Date of Analysis** |  |

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| --- | --- | --- | --- | --- |
| **S. No.** | **Step** | **Execution** | | **Executed by** |
| **R1** | **R2** |
| 1. | Sample No. |  |  |  |
| 2. | Name of Sample |  |  |  |
| 3. | **Procedure** |  |  |  |
| **3.1.** | **Preparation of Mobile Phase** |  |  |  |
| 3.1.1 | Mix Hexane and 1,4 dioxane in the proportion of 94 : 6 (v/v) |  |  |  |
| 3.1.2. | Pass through the 0.45 µm membrane filter under vaccum. |  |  |  |
| 3.1.3. | Sonicate the mixture to Homogenize. Allow to attain room temperature. |  |  |  |
| **3.2** | **Preparation of Internal Standard** |  |  |  |
| 3.2.1 | Weigh 1.25 g of Di- butyl Pthalate in a 50 mL volumetric flask |  |  |  |
| 3.2.2 | *Note down the serial No. of the balance log book* |  |  |  |
| 3.2.3 | Add 10 mL of mobile phase sonicate for for 10 min to dissolve make up to the mark with mobile phase. |  |  |  |
| **3.3** | **Preparation of standard solution** |  |  |  |
| 3.3.1 | Note the purity of the standard | % | % |  |
| 3.3.2 | Weigh 20 mg a. i. of Standard in a 10 ml volumetric flask | g | g |  |
| 3.3.3 | *Note down the serial No. of the balance log book* |  |  |  |
| 3.3.4 | Add 5 mL mobile phase (3.1.3), sonicate for 5 min to dissolve the material. |  |  |  |
| 3.3.5 | Dilute up to the mark with mobile phase (3.1.3)(Stock A). |  |  |  |
| 3.3.6 | Pipette out 2 mL of Stock A (3.3.5) into a 10 mL volumetric flask |  |  |  |
| 3.3.7 | Add 2 mL of internal standard solution (3.2.3) |  |  |  |
| 3.3.8 | Dilute up to the mark with mobile phase (3.1.3). Stopper and shake well to homogenize. |  |  |  |
| **3.4** | **Preparation of sample solution** |  |  |  |
| 3.4.1 | Note down the percent active ingredient declared on the sample | % | % |  |
| 3.4.2 | Weigh 4 mg a. i. of sample in a 50 ml volumetric flask | g | g |  |
| 3.4.3 | *Note down the serial No. of the balance log book* |  |  |  |
| 3.4.4 | Add 5 mL mobile phase (3.1.3), sonicate for 5 min to dissolve the material. | ml | ml |  |
| 3.4.5 | Add 2 mL of Internal standard solution (3.2.3) |  |  |  |
| 3.4.6 | Dilute up to the mark with mobile phase(3.1.3). Stopper and shake well to homogenize. |  |  |  |
| **4.** | **HPLC Parameters** |  |  |  |
| **4.1** | **Column** |  |  |  |
| 4.1.1 | Silica, Particle Size: 5µ |  |  |  |
| 4.1.2 | Length: 250 mm |  |  |  |
| 4.1.3 | I.D.: 4.6 mm |  |  |  |
| **4.2** | **Mobile Phase** |  |  |  |
| 4.2.1 | n-Hexane : 1,4 Dioxane (94 : 6) |  |  |  |
| 4.2.2 | Flow Rate : 1.50 ml/min |  |  |  |
| **4.3** | **Detector:** UV |  |  |  |
| **4.4** | **Wave Length**: 260 nm |  |  |  |
| **4.5** | **Injection Volume:** 20µl |  |  |  |
| 5. | **Data** |  |  |  |
| Sample chromatogram no. |  |  |  |
| Standard chromatogram no. |  |  |  |

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| **6. Calculation:**   |  |  | | --- | --- | | Quizalofop-ethyl content, % by mass =  A1 x A’IS’2 x M1 ---------------------- X P  A’IS’1 x A2 x M2 | **Where,**  A1 = Peak area of Quizalofop-ethyl 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 Quizalofop-ethyl in the standard solution.  M1 = Mass in ‘g’ of standard Quizalofop-ethyl in the standard solution.  M2 = Mass in ‘g’ of Quizalofop-ethyl sample taken for test.  P = Percent purity of Quizalofop-ethyl standard. | |
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**Result:**

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| **Sl.No.** | **Name of test** | **Result** | **Unit** | **Method of Analysis** |
| 1. | Active ingredient |  | % | In house method (SOP/PFRAC/263) |
| Remark / Reference : | | | | |

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