Sr. No. in Scope NABL / NON NABL

**Flow chart for analysis of Dimethoate content in formulation sample**

|  |  |
| --- | --- |
| **Date of Analysis** |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **SI. No.** | **Step** | **Execution** | **Executed By** |
| 1. | Sample No. |  |  |
| 2. | Name of Sample | | |
| **3.** | **Procedure** | | |
| **3.1** | **Preparation of Standard Solution** | | |
| 3.1.1 | Note the Purity of standard. | % |  |
| 3.1.2 | Weigh about 0.25 g a.i of standard Dimethoate in a 25 mL volumetric flask. | g |  |
| 3.1.3 | *Note the serial number of balance log book.* |  |  |
| 3.1.4 | Add to it 10 ml of solvent i.e. carbon disulphide. |  |  |
| 3.1.5 | Keep it for 10 minutes with intermittent shaking. |  |  |
| 3.1.6 | Dilute up to the mark with carbon disulphide. |  |  |
| **3.2** | **Preparation of Sample Solution** | | |
| 3.2.1 | Note the percent active ingredient content declared on the sample. | % |  |
| 3.2.2 | Weigh a quantity of the sample as to contain 0.25 g a.i of Dimethoate in a 25 mL volumetric flask. | g |  |
| 3.2.3 | *Note the serial number of balance log book.* |  |  |
| 3.2.4 | Add to it 10 ml of solvent i.e. carbon disulphide. |  |  |
| 3.2.5 | Keep it for 10 minutes with intermittent shaking. |  |  |
| 3.2.6 | Dilute up to the mark with carbon disulphide. |  |  |
| **4.** | **FTIR Parameters**  FTIR capable of reading in the region of 2000 to 400 cm-1  (9.1 to 11.2 microns) |  |  |
| 4.1 | **Detector:** DTGS |  |  |
| 4.2 | **Wave Length**: 9.1 to 11.2 microns |  |  |
| 4.3 | Base line points and Absorbance maxima. |  |  |
| 4.4 | **Cell Thickness:** 0.1 mm (Nacl/KBr) |  |  |
| 5.1 | Making scans and determining absorbance to be included in calculation |  |  |
| 5.2 | *Note the serial number of FT-IR Spectrophotometer log book.* |  |  |

**6. Calculation:**

A1 M

Dimethoate content, % by mass = ------ x ------ x P

A M1

**Where,**

A1 = Absorbance of the Sample solution

M1 = Mass in ‘g’ of the Sample taken for the test

P = Purity of Standard Dimethoate

A = Absorbance of Standard Dimethoate solution

M = Mass in ‘g’ of Standard Dimethoate taken for test

**7. Result:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sample spectrogram No.** | | | |  |
| **Standard spectrogram No.** | | | |  |
| **SI. No.** | **Name of test** | **Result** | **Unit** | **Method of Analysis** |
| 1. | Active ingredient |  | % | IS : 3902 - 1975 (Reaffirmed 2009)  IS : 3903 - 1984 (Reaffirmed 2009) |
| Remark / Reference : | | | | |

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