Sr. No. in Scope NABL / NON NABL

**Flow Chart for Analysis of Dichlorvos in Formulation**

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

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| --- | --- | --- | --- | --- |
| **Sl.**  **No.** | **Step** | **Execution** | | **Executed By** |
| 1. | Sample No. |  | |  |
| 2. | Name of Sample | | | |
| 2.1 | Sample Description | | | |
| **3.** | **Preparation of Standard Solution** | **R1** | **R2** |  |
| 3.1 | Weigh 0.625 g a.i. of Dichlorvos reference standard accurately into a 25 ml volumetric flask,. Dissolve and make up the volume to the mark with chloroform. This solution will give 25 mg/mL stock solution. (Stock A) | mg | mg |  |
| 3.2 | Note the serial number in balance logbook |  |  |  |
| **4.** | **Preparation of Standard Curve :** |  |  |  |
| 4.1 | Pipette out 1.0 ml of stock A (3.1) into a 10 mL volumetric flask. Dissolve and make up the volume to the mark with chloroform. |  |  |  |
| 4.2 | Pipette out 3.0 ml of stock A (3.1) into a 10 mL volumetric flask. Dissolve and make up the volume to the mark with chloroform. |  |  |  |
| 4.3 | Pipette out 4 ml of stock A (3.1) into a 10 mL volumetric flask. Dissolve and make up the volume to the mark with chloroform. |  |  |  |
| 4.4 | Pipette out 6 ml of stock A (3.1) into a 10 mL volumetric flask. Dissolve and make up the volume to the mark with chloroform. |  |  |  |
| 4.5 | Pipette out 8 ml of stock A (3.1) into a 10 mL volumetric flask. Dissolve and make up the volume to the mark with chloroform. |  |  |  |
| 4.6 | Adjust the spectrophotometer to the optimum instrument  settings over the wavelength region of 9.9 to 10.6 microns. |  |  |  |
| 4.7 | Fill the absorption cell with Chloroform by means of the  hypodermic syringe. Make a scan with chloroform in the cell over the wavelength region of 9.9 to 10.6 microns. |  |  |  |
| 4.8 | Without changing the instrument settings, fill the cell in turn, with each of the calibration solutions starting with the most dilute. Scan each of these solutions over 9.9 to 10.6 microns. |  |  |  |
| 4.9 | Measure the absorbance maximum at 10.2 microns with the two reference minima at 10.0 and 10.4 microns |  |  |  |
| **5** | **Preparation of Sample solution:** |  |  |  |
| 5.1 | Take a column plug with glass wool and fill with chloroform to a height of 50 mm. |  |  |  |
| 5.2 | Weigh 3 g of cellulose powder make a slurry with o.2 mL water and 20 mL of chloroform. Transfer quantitatively using additional quantity of chloroform. |  |  |  |
| 5.3 | Tap gently for uniform packing without gaps. |  |  |  |
| 5.4 | Elute and discard the solvent used for pre wetting the cellulose powder. Adjust the elution rate. |  |  |  |
| 5.5 | Weigh 0.25 g of sample dissolve and transfer quantitatively with 10 ml chloroform when the level of the solvent is just above the solid phase. | mg | mg |  |
| 5.6 | *Note the serial number in balance logbook* |  |  |  |
| 5.7 | Start collecting the elute into a clean beaker with 100 mL chloroform. |  |  |  |
| 5.8 | Collect all the elute and evaporate to less than 10 ml on a waterbath. |  |  |  |
| 5.9 | Transfer the sample quantitatively to a 10 ml volumetric flask and make up to the mark with chloroform. |  |  |  |
| 6. | **Estimation of sample:** |  |  |  |
| 6.1 | Fill the cell with sample solution using a hypodermic syringe. |  |  |  |
| 6.2 | Scan the sample solutions over the wavelength region of 9.9 to 10.6 microns. |  |  |  |
| 6.3 | Measure the absorbance maximum at 10.2 microns with the two reference minima at 10.0 and 10.4 microns. |  |  |  |
| 6.4 | Determine the quantity of the dichlorvos in the sample from the calibration curve and calculate the percent active ingredient present in the sample. |  |  |  |

**7. CALCULATION:**

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| --- | --- |
| Dichlorvos content A X V % by mass, = ----------------- M X 10 | **Where,**  A = Quantity of dichlorvos mg/ mL obtained from curve  M = mass in g of the sample taken for the test  V= volume in mL of the sample solution made up to |
|  | |

**Result:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sr. No.** | **Name of test** | **Result** | **Unit** | **Method of Analysis** |
| 1. | Dichlorvos |  | % | IS 5277 - 1978  (Reaffirmed 2002) |
| Remark / Reference in daily workbook : | | | | |

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