**APPENDIX I**

**LOG BOOK FOR VISIBLE SPECTROPHOTOMETER**

**Instrument Id: -----------------------------**

**Location : ------------------------------**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Sr. No** | **Date** | **Start Time** | **Name of Sample** | **Batch No /**  **A. R. No** | **End Time** | **Done by** | **Checked by** | **Remarks** |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |

**APPENDIX II XYZ/CQA/SOP-089/FR-02**

**CALIBRATION DATA SHEET INSCAL-------------------------**

**Page 1 of 4**

**1.0 Instrument Id : ------------------------------------**

**2.0 Location : ------------------------------------**

**3.0 Frequency of calibration : HALF YEARLY**

**4.0 Date of calibration : ------------------------------------**

**5.0 Next due date of calibration: ------------------------------------**

**6.0 PRELIMINARY CHECK**

**6.1**  **Cleanliness of the Instrument:**

Observation: Clean / Not Clean

Corrective action in the case of non-compliance:

**6.2** **Cleanliness of the cuvettes :**

Observation: Ok / Not Ok

Corrective action in the case of non-compliance:

**6.3 Humidity and temperature requirement:**

Observation: Ok / Not Ok

Corrective action in the case of non-compliance:

**6.4 Condition of silica Gel:**

Corrective action in the case of non-compliance:

**6.5 Instrument is connected to a stabilized power supply**

Observation: Ok / Not Ok

Corrective action in the case of non-compliance:

**6.6 Any other maintenance:**

**6.7 WAVELENGTH ACCURACY** Page 2 of 4

Prepare 1.5M CoCl2.6H2O ----------- g of CoCl2.6H2O (Make-----------Batch / Lot No----------------) in ------ml of milli Q water.

0.15M CoCl2.6H2O Pipette out ------ml of stock solution to the -------ml volumetric flask and make up the volume with water up to the mark

|  |  |  |
| --- | --- | --- |
| Sr, no. | Wavelength in nm | Transmittance |
| 1.0 | 600 |  |
| 2.0 | 650 |  |
| 3.0 | 700 |  |
| 4.0 | 750 |  |
| 5.0 | 800 |  |
| 6.0 | 850 |  |

**Acceptance Criteria:**

Maximum transmittance should be observed at wavelength 700nm±50nm.

**Remarks : Complies / Does not comply**

**Done by : Checked by : Approved by :**

**Date : Date : Date :**

**6.1.2 LINEARITY OF ABSORBANCE:** Page 3 of 4

Solution of 1.5M CoCl2.6H2O -------------------------------------------------------------------------

Solution of 0.15M CoCl2.6H2O-------------------------------------------------------------------------

Solution of 0.12M CoCl2.6H2O-------------------------------------------------------------------------

Solution of 0.09M CoCl2.6H2O-------------------------------------------------------------------------

Solution of 0.06M CoCl2.6H2O-------------------------------------------------------------------------

Solution of 0.03M CoCl2.6H2O-------------------------------------------------------------------------

|  |  |  |
| --- | --- | --- |
| Sr. no. | concentration | Transmittance at 550nm |
| 1 | 0.1500 |  |
| 2 | 0.1200 |  |
| 3 | 0.0900 |  |
| 4 | 0.0600 |  |
| 5 | 0.0300 |  |

**Acceptance criteria**

Transmittance should be ±2%.

The linearity coefficient ‘r’ obtained from the linearity graph of CoCl2.6H2Ofor different levels should not be less than 0.99.

**Remarks :** **Complies / Does not comply**.

**Done by : Checked by : Approved by:**

**Date : Date : Date :**

**12.0 SPECIFICATION OF CELLS:** Page 4 of 4

|  |  |  |
| --- | --- | --- |
| **Wavelength**  **(nm)** | **% Transmittance** | **Acceptance Criteria** |
| **Cell** |  |
| 400 |  | Not less than 73% |
| 450 |  | Not less than 85% |
| 500 |  | Not less than 87% |
| 550 |  | Not less than 90% |

**Remarks :** **Complies / Does not comply**.

**Done by : Checked by : Approved by:**

**Date : Date : Date :**

**APPENDIX III XYZ/CQA/SOP-089/FR-03**

**UV-VIS CALIBRATION SUMMARY SHEEET INSCAL-----------------------------**

**Page 1 of 2**

**Instrument ID : -------------------------------**

**Location : -------------------------------**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **TEST** | **ACCEPTANCE CRITERIA** | | | | **STATUS** | |
| Wavelength Accuracy | Wavelength in nm | Observation | Maximum  Transmittance | Complies/ Does not  Comply | |
| 600 |  |  |
| 650 |  |
| 700 |  |
| 750 |  |
| 800 |  |
| 850 |  |
| Linearity of Transmittance | Concentration | Transmittance at 550nm | **Acceptance criteria** | Complies/ Does not  Comply | |
|  | 0.15M |  | Transmittance should be ±2%.  The linearity coefficient ‘r’ obtained from the linearity graph of CoCl2.6H2Ofor different levels should not  be less than 0.99. |
|  | 0.12M |  |
|  | 0.090M |  |
|  | 0.060M |  |
|  | 0.030M |  |

**Page 2 of 2**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Specification of cell | Transmittance | Wavelength in nm | % Transmittance | Complies/ Does not  Comply |
|  | 400 | Not less than 73% |
|  | 450 | Not less than 85% |
|  | 500 | Not less than 87% |
|  | 550 | Not less than 90% |

Remarks: The above parameters used for the calibration as per predefined acceptance criteria complies / Does not comply hence the instrument is suitable / Not suitable for routine analysis.

**Done by : Checked BY : Approved By :**

**Date : Date : Date** **:**