PERFORMANCE QUALIFICATION PROTOCOL FOR 500 LTRS. VESSEL WITH VIBRO MIXER

1.0 Objective of Validation:

To validate the Performance of 500 lts Vessel with Vibro mixer with respect to the suspension/solution homogeneity of Metered Dose Inhaler is maintained throughout the batch filling by estimation of content of active ingredient(s) per container and to estimate water content per container.

2.0 Scope of Validation:

Performance validation of 500 lts Vessel with Vibro mixer

3.0 Justification for Selection of Item/Equipment/Process/Product/System:

Justification for the selection should be recorded in the validation report

4.0 Site of Study:

Aerosol Department:

Name of the Location should be recorded in the validation report.

5.0 Responsibility:

Representatives from:

Production
Engineering
Safety
Quality Control
Quality Assurance

Name of the individuals should be recorded in the validation report.

6.0 Standard Operating Procedures / BMR / BPR / Specifications:

6.1 Batch manufacturing record for the product should be recorded in the validation report.

6.2 Zero error checking and calibration SOP No., Code number and Qualification date of balances should be recorded in the validation report.

6.3 Operation and Maintenance SOP No., Make, Code number and Qualification dates of product circulation pump should be recorded in the validation report.

6.4 Operation and Maintenance SOP No., Make, Code number and Qualification dates of Product filler should be recorded in the validation report.

6.5 Air Cleaning of Aluminium containers SOP No., Code number and Qualification dates of Container Cleaning machine should be recorded in the validation report.

6.6 Operation and Maintenance SOP No., Make, Code number and Qualification date of Manufacturing vessel should be recorded in the validation report.

7.0 Controls:

7.1 **Calibration:** Calibration of the weighing balance should be done at the start of the validation and at the end of the validation and should be recorded in the validation report.

7.2 **Training:** Training status of the personnel involved in the validation exercise should be recorded in the validation report.

7.3 **Precautions:**

7.3.1 All safety precautions mentioned in individual SOPs of the equipments must be ensured during study.

7.3.2 Air pressure of Product circulation pump should be as per BMR and should be recorded in the validation report.

7.3.3 Air pressure of Product filler should be as per BMR and should be recorded in the validation report.

7.3.4 Homogeniser speed should be as per BMR and should be recorded in the validation report.

7.3.5 Manufacturing vessel Vibrator speed, temperature of suspension/ solution should be as per BMR and should be recorded in the validation report.

7.3.6 Air Pressure & Vacuum of Aluminium container-cleaning machine should be as per BMR and should be recorded in the validation report.

7.3.7 Fill weight range of suspension/solution should be as per BMR and should be recorded in the validation report.

8.0 Validation Procedure:

8.1 Manufacture the suspension/solution as per the batch manufacturing record.

a. Dispense the batch quantity of Filtered Propellant in manufacturing vessel till the vibrator mixing plate is completely dipped in Propellant.

b. Check the gross weight & add Active Pharmaceutical ingredient and Excipient to the Charging ball of manufacturing vessel.

c. Transfer Active Pharmaceutical ingredient and Excipient to the manufacturing vessel with constant mixing at 70% vibration speed.

d. After 10 minutes of mixing ttransfer the remaining quantity of Propellant to manufacturing vessel with constant mixing at 70% vibration speed.

e. After complete addition of Propellant, continue mixing for 10 minutes at 70% vibration speed.

f. After 5 minutes mixing open the outlet of manufacturing vessel and start product circulation pump with constant mixing at 70% vibration speed.

g. After 5 minutes product recirculation reduce the mixing to 60% Vibration speed.

8.2 Calibrate the balance as per Standard Operation procedure.

8.3 Set and Operate the Filling machine as per respective Standard Operation procedure to fill suspension/solution as per the Batch Manufacturing Record.

8.4 Send from each line initial 3 containers with suspension / solution to Q.C. for estimation of content of active ingredient(s) per container & 1 container for water content. As per the below given interval.

After 5 minutes of recirculation

After 10 minutes of recirculation

After 15 minutes of recirculation

After 20 minutes of recirculation

After 25 minutes of recirculation

After 30 minutes of recirculation

8.5 Send from each line 2 containers along with suspension / solution after every 1/6th of batch size to Q.C. for estimation of content of active ingredient(s) per container.

8.6 Send from each line middle 2 containers with suspension / solution to Q.C. for estimation of content of active ingredient(s) per container & 1 container for water content.

8.7 Send from each line last 3 containers with suspension / solution to Q.C. for estimation of content of active ingredient(s) per container & 1 container for water content.

9.0 Acceptance Criteria:

Content of active ingredient(s) should be within limits as per Finished Bulk Specification of Quality Control should be within the limits mentioned in the specification. Limits and Specification No. should be recorded in the report.

10.0 Details of Deviations / Non Compliance / OOS:

10.1 Deviation: Any deviation if observed should be recorded in the validation report and should be investigated as per CQA SOP for Deviation.

10.2 Out of Specification: Any out of specification if observed should be recorded in the validation report and should be investigated as per SOP for Out of Specification; in such case, action to be taken for validation batch, should be based on conclusion of investigation.

11.0 Type of Validation: Concurrent /Periodic revalidation / Revalidation after major change.

12.0 Frequency:

12.1 Validation: On first three production batches.
12.2 Re-validation (Periodic): One batch every year.
12.3 Re-validation (After Major Change): Three consecutive batches.

13.0 Risk Management Studies:

Risk Management studies performed related to the activity should be recorded in the validation report.

14.0 Results / Observations:

Record all the observations and results in the validation report

15.0 Summary of Validation Activity:

Summarize the findings of the validation study to draw an inference.

16.0 Recommendations:

Record the recommendations based on the interpretation of the results in the validation report

17.0 Team approval:

The personnel who have performed the validation study, supervised the validation, completed the records, performed the testing of the product should approve the validation report.

18.0 Review and Approval:

The validation report should be reviewed and finally approved by unit quality assurance and noted by unit head.

19.0 Attachments:

All the attachments should be listed in the validation report

20.0 Abbreviation:

If any; state the full form of used short form in the validation report.