

Preparation and Evaluation of Aspirin Tablets

Practical 03 | Industrial Pharmacy I

Aim

To study Preparation and Evaluation of Aspirin Tablets, and interpret the recorded observations.

Principle

- Aspirin tablet processing must consider moisture-associated hydrolysis as well as compressibility and release. A tablet can retain its mass while its chemical quality changes.
- A dosage form combines an active ingredient with excipients selected for processing, stability and performance.
- Preparation and evaluation are linked: changes in composition or process can alter the product quality attributes.
- Record the moisture and temperature exposure of the assigned process.
- Prepare the approved blend or granulation and observe compression.
- Evaluate tablet properties and distinguish physical defects from chemical deterioration.
- Interpret aspirin assay using the assigned analytical method and analyte basis.

Materials and Apparatus

- Aspirin and the approved tablet excipients, compression equipment and the assigned assay/quality tests.
- Assigned active ingredient, excipients and the instructor-approved master formula.
- Balance, mixing/preparation equipment, packaging materials and the assigned evaluation apparatus.

Method

1. Read the master formula and identify the purpose of each ingredient.
2. Calculate the quantities for the assigned laboratory batch and check ingredient identity.
3. Follow the specified order of addition and preparation process, recording actual quantities and process observations.
4. Measure the yield or finished quantity and package the laboratory preparation as specified.
5. Evaluate the product attributes listed for this dosage form with documented methods.
6. Compare the observations with the assigned specification and explain any difference.

Observation Record

Complete this record using actual laboratory findings or the provided teaching data.

Observation / parameter	Record / finding
Batch formula	_____
Process moisture exposure	_____
Tablet mass	_____
Mechanical tests	_____
Disintegration/release	_____
Assay	_____

Calculations and Interpretation

- Batch scale factor = desired quantity/master-formula quantity.
- Scale each ingredient by the same factor unless the approved formula specifies otherwise.
- Assay (%) = measured active amount/declared active amount × 100, on the same unit and product basis.

Result

Record the actual finding, calculated value with units where relevant, and a conclusion supported by the observations.

Finding: _____

Conclusion: _____

Precautions

- Record changes in process or composition; do not conceal a deviation.
- Use the specification assigned to the exact product and dosage form.
- A teaching batch is for laboratory evaluation and is not released for patient use.

Viva Questions

1. Why identify excipient functions?

Each excipient can influence processing, stability, release or acceptability.

2. Why is appearance alone insufficient for evaluation?

It does not establish content, performance, stability or microbiological quality.

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