Hard Gelatin Capsules

Experiment 2 - Practical Notes

Name: _____ Roll no.: _____ Date: _____

Aim

To fill and evaluate an assigned hard gelatin capsule formulation.

Principle

Capsule shell size, powder bulk properties and fill uniformity determine the amount that can be delivered. Capsule shell mass must be separated from fill mass where required.

Requirements

- Assigned capsule shells and master-formula ingredients, balance, mixing tools and supervised capsule-filling equipment.

Procedure

1. Calculate

Enter target fill per capsule, number of units, shell size and ingredient quantities.

2. Blend

Reduce lumps and mix ingredients by the prescribed method; evaluate the assigned flow/bulk-density information.

3. Fill and close

Use the supervised filling method, maintain consistent fill and close shells without damage.

4. Check masses

Record empty-shell and filled-capsule masses where the assigned method requires them.

5. Evaluate

Assess appearance, fill uniformity and the required disintegration/dissolution or other performance test.

Observations and Record

Capsule	Empty shell mass	Filled mass / net fill
1	_____	_____
2	_____	_____
3	_____	_____

Worked Example

The numbers below are illustrative; enter your own observations in the record.

- Net fill mass = filled capsule mass − empty shell mass.
- Example: 0.420 g − 0.070 g = 0.350 g net fill.
- Mean fill = sum of net fills / number of capsules assessed.

Result

Record the completed observations, calculations and conclusion with units. State any limitation of the observation.

Precautions

- Keep shell moisture and handling conditions suitable for the assigned material.
- Do not infer drug content solely from total capsule mass.

Viva Questions and Answers

1. Why choose an appropriate shell size?

It must accommodate the required fill volume and material properties.

2. Why record shell mass?

It can affect the apparent fill-mass calculation.

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