

**SNS COLLEGE OF PHARMACY
AND HEALTH SCIENCES**

Affiliated To The Tamil Nadu Dr. MGR Medical University, Chennai

Approved by Pharmacy Council of India, New Delhi.

Coimbatore -641035



PHARMACEUTICS (BP103T)

**UNIT 2- POWDER DOSAGE FORMS
CASE STUDY PUZZLES**

✿ Case 1: The Incorrect Trituration



A student prepares a **triturate** of a potent drug (1 mg) with lactose (99 mg). After distribution into 20 doses, analysis shows **non-uniform amount** of drug in each packet.

Puzzle:

1. What step in trituration was likely performed incorrectly?
2. Name the **technique** required to ensure uniform mixing in potent drug powders.

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3. How can dose variation be minimized?



✿ Case 2: The Explosive Combination

A chemist accidentally mixes **oxidizing agents** with **reducing agents** in a divided powder preparation. Within minutes, fumes appear and the mixture becomes warm.

Puzzle:

1. What type of incompatibility has occurred?
2. Give **one example** of an oxidizing + reducing combination that should never be mixed.
3. How should such powders be handled or dispensed?

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❖ Case 3: The Hygroscopic Horror



A bulk powder containing **calcium chloride** becomes **wet and liquefies** after storage in a humid climate. Patients complain the powder “turned to paste.”

Puzzle:

1. What property of calcium chloride caused this?
2. What packaging material would prevent this problem?
3. Suggest a **formulation modification** for hygroscopic powders.

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✿ Case 4: The Volatile Vanishing Powder

A dusting powder contains **menthol** and camphor. After one month, the fragrance weakens significantly and weight decreases slightly.

Puzzle:

1. What physical change occurred?
2. Why do menthol and camphor behave this way in powders?
3. Suggest **one appropriate packaging type**.

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✿ Case 5: The Granule vs. Powder Confusion

A manufacturing error results in a product labeled as **powder**, but customers complain it feels like **small hard particles** and does not dissolve quickly in water.

Puzzle:

1. Did the product actually become a **granule** instead of a powder?
2. What processing step may have caused particle agglomeration?
3. State one difference between a **powder** and a **granule** in pharmaceutical use.