

GENERAL PHARMACY

UNIT 3

General Pharmacy

Solid Dosage Forms



Powders: definition & fundamentals

Definition — dry, finely divided drugs or chemicals prepared for a stated use.

Preparation — crystallisation, precipitation, drying, milling, sieving and blending may be used.

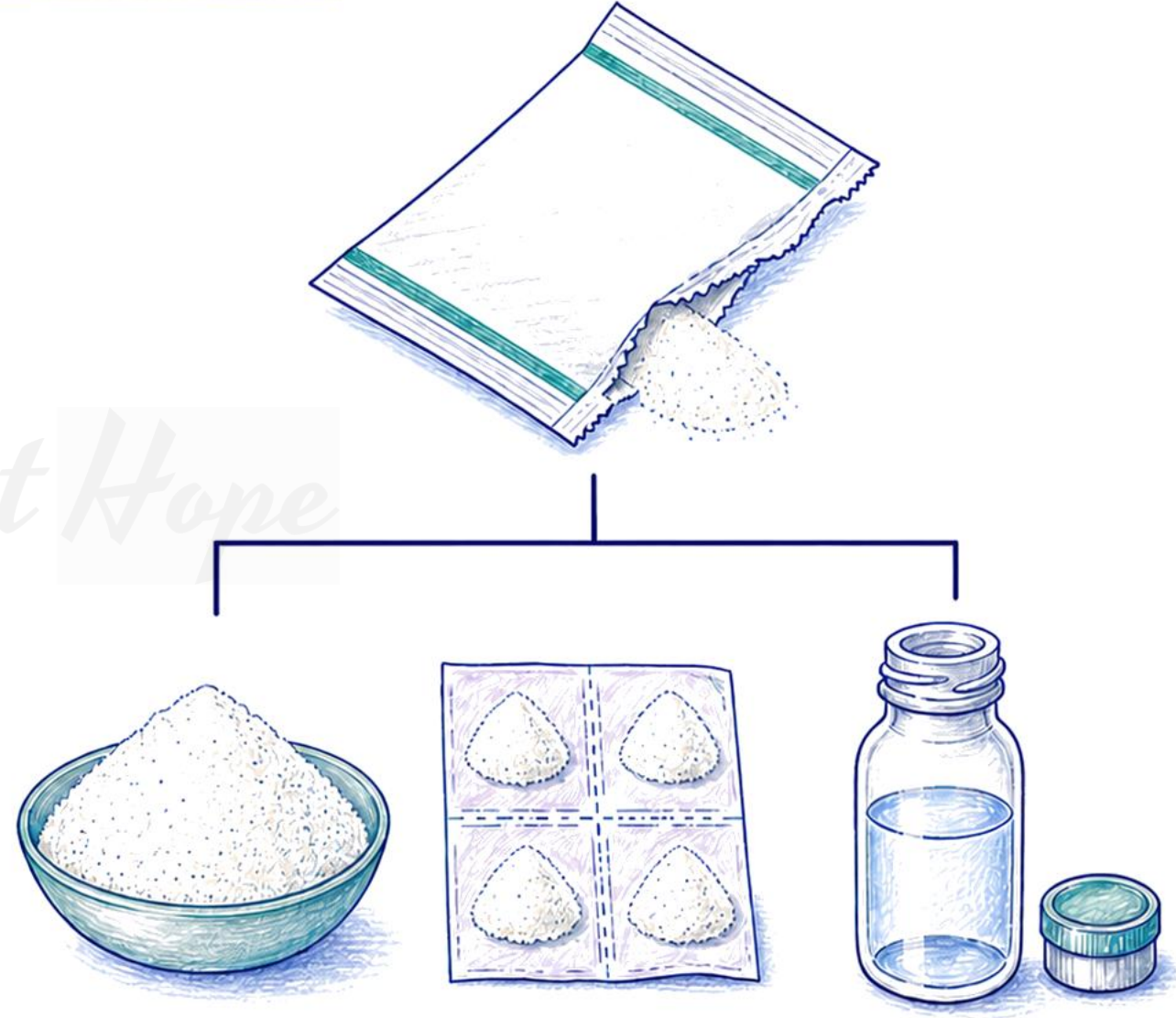
Presentation — products may be bulk, divided-dose or unit-dose preparations.

Routes — oral, topical, inhaled and reconstituted products need different controls.

Particle size influences flow, mixing, dissolution, feel and physical stability.

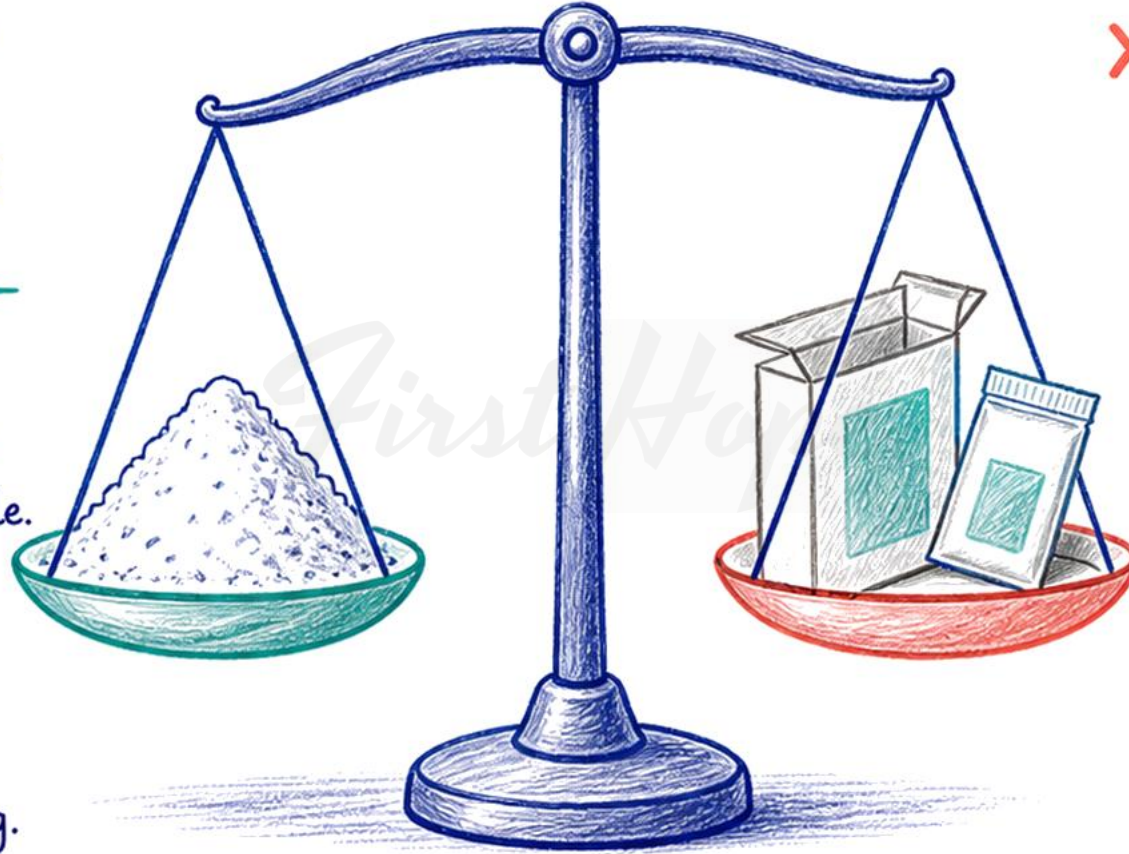
Quality requires identity, purity, uniformity, moisture and microbial control.

Always measure, prepare and use a powder exactly as its label directs.



Powders: advantages & limitations

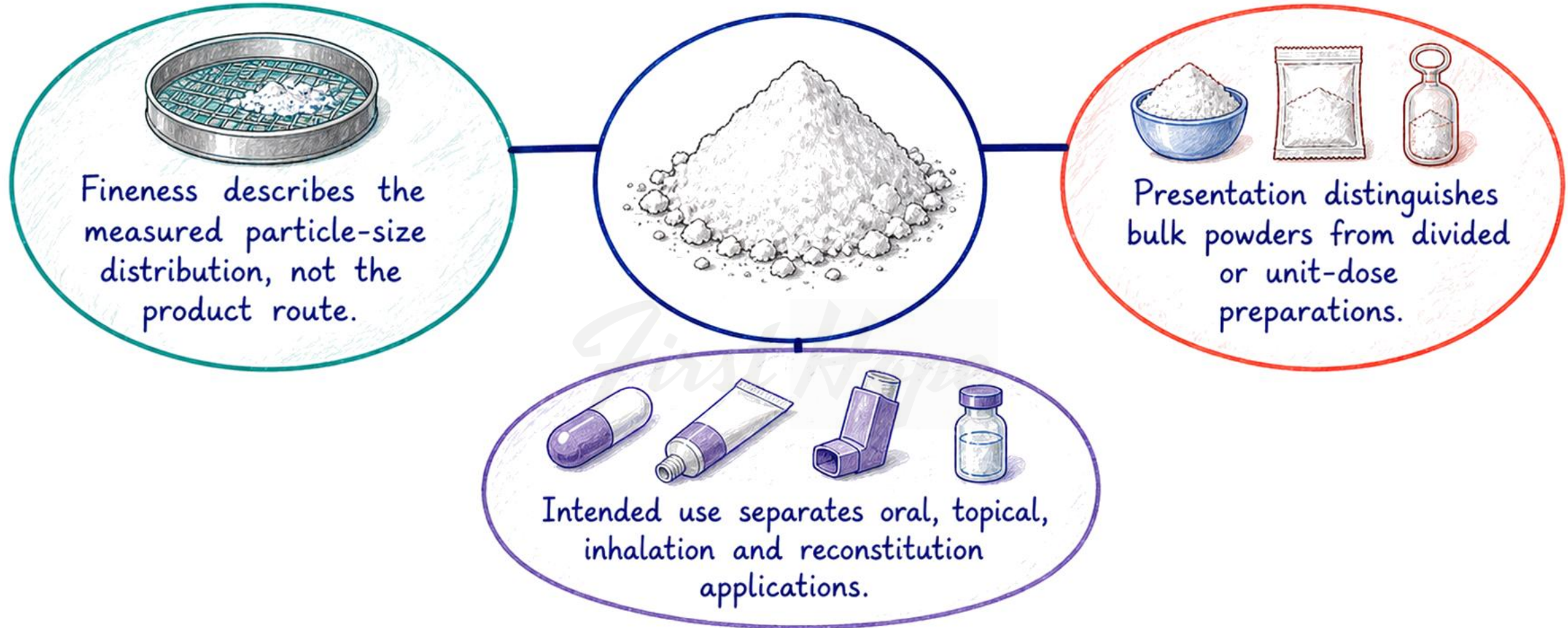
- ✓ Flexible presentation can support dose adjustment when a suitable measuring method exists.
- ✓ Rapid dispersion may aid dissolution when particles wet readily and remain stable.
- ✓ Simple processing can suit ingredients that tolerate milling, mixing and packaging.



- ✗ But bulk powders can give inaccurate doses when measuring technique varies.
- ✗ Taste, odour, dust formation and swallowing difficulty may reduce patient adherence.
- ✗ Humidity, oxygen, light, heat and ingredient interactions can damage dry products.

* Smaller particles do not guarantee faster absorption, faster onset or better bioavailability.

Powder classification: three separate lenses



- Together they answer three questions: how fine, how presented and how used.
- A single product can occupy one category under each independent lens.
- Do not connect these peer categories with arrows suggesting manufacture or progression.
- Classification helps choose testing, packaging, measuring and safe-use instructions.

Powder fineness: current Indian Pharmacopoeia

IP 2.4.49 classifies fineness using median particle size x_{50} and volume distribution Q_3 .

Coarse

— x_{50} above 355 micrometres.

Moderately fine

— x_{50} above 180 and at or below 355 micrometres.

Fine

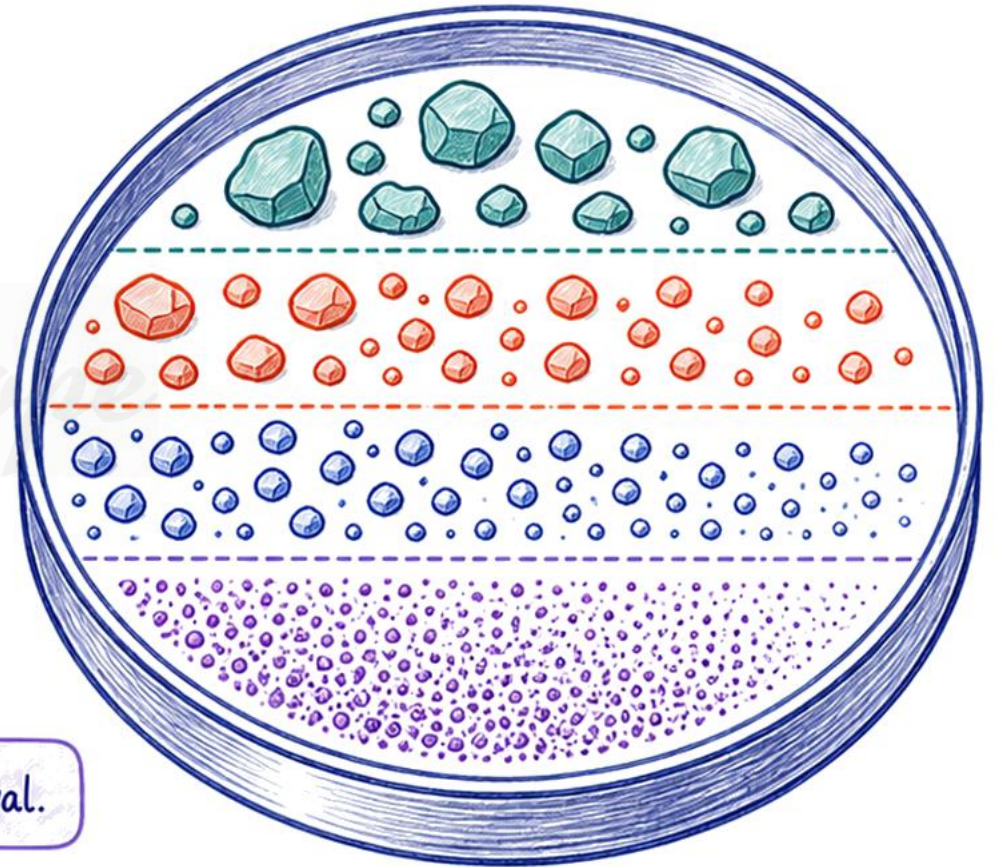
— x_{50} above 125 and at or below 180 micrometres.

Very fine

— x_{50} at or below 125 micrometres.

x_{50} is the median; it does not mean every particle fits that interval.

Measure the distribution by a suitable validated method, such as sieving or diffraction.





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