



**KRISHNA VISHWA VIDYAPEETH
(DEEMED TO BE UNIVERSITY), KARAD**

**UNIVERSITY EDUCATION AND TECHNOLOGY CELL &
CENTRE OF DISTANCE AND ONLINE EDUCATION KVV**

**To prepare the granules and compress the
tablet of given paracetamol drug**

By

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Requirements:-

- 1) Chemicals:- Pure paracetamol drug sample, starch, Magnesium stearate, Talc.
- 2) Apparatus:- Mortar Pestle, Beaker, stirrer, Sieves.
- 3) Instruments:- Weighing Hot Air Oven, Water Bath, Tablet Punching Machin(KBR Press).

Objectives

Granulation:

- To convert fine powders of paracetamol into free-flowing granules.
- To ensure uniform distribution of paracetamol and excipients.

Compression:

- To compress the prepared granules into tablets.
- To achieve tablets with desired hardness, friability, and disintegration time

Formulation Table

<u>Sr.No.</u>	Ingredients	Quantity given (Single Tablet)	Quantity Taken (6 tablets)	Role
1)	Paracetamol IP	500 mg	3 gm	API
2)	Starch IP	30 mg	0.18 gm	Binder
3)	Starch Mucilage IP	Q.S.	Q.S.	Binder
4)	Talc	0.75%	4 mg	Glidant
5)	Magnesium Stearate	0.25%	2 mg	Lubricant

Procedure

1) Weighing and Mixing:

- Weigh the required amount of paracetamol and excipients.
- Mix paracetamol with the filler in a mortar and pestle or mixer.

2)Granulation:

- Prepare the binder solution (e.g., Starch in water).
- Add the binder solution to the powder mixture to form a wet mass.
- Pass the wet mass through a sieve to form granules 20.
- Dry the granules in an oven at a suitable temperature (e.g., 60-70°C).
- Once dried, Take a weight of dried granules.
- pass the granules through a sieve 22/44to break up any lumps.
- Calculate the 10% fines of total wt of the granules and add into dried granules

3) Lubrication:

- Mix the dried granules with lubricants and Glidant to ensure smooth tablet compression.

4) Compression:

- Set up the tablet press.
- Adjust the machine settings to achieve the desired tablet weight, thickness, and hardness.
- Compress the granules into tablets.

5) Evaluation:

- Test the tablets for hardness, friability, and disintegration time.
- Ensure the tablets meet the specified quality parameters.

6) Packaging:

- Once the tablets pass all quality tests, they can be packaged for storage or distribution.

KBR Press – (for compression)



□ Observations

Weight of Dry Granules:-

Weight of 10% fines:-

Weight of Lubricated Granules-

□ Calculations

- 1) Theoretical Yield= weight of dry granules (gm)=**2.81**
- 2) Practical yield= Weight of granules on sieve 22+ 10% of fines (gm)=2.27+0.09= **2.3g**
 10% fines= 100% = 0.97 gm (weight of total fines) 10x0.97/100= **0.09**
 10% = ?
- 3) % Yield= practical yield/Theoretical yield x 100=2.3/2.81x100= **81.85%**
- 4) Paracetamol in batch(Batch size)/ in 6 Tablets= **2.4 gm**
 Theoretical Yield = 3 gm of paracetamol in batch 2.81 gm = 3 gm
 Practical Yield = ? 2.3 = x
- 5) Paracetamol in single tablet:-**0.499 gm (499 mg)**
 Practical Yield = 2.4 gm 2.3 = 2.4
 ? = 0.5 gm x = 0.5

□ Result

.....gm of paracetamol Granules was prepared andmg (6 tablets) was prepared and submitted in suitable container.

Thanks for support and guidance:

Prof. (Dr) Namdeo R. Jadhav

Dean, Krishna Institute of Pharmacy,
Krishna Vishwa Vidyapeeth, Karad

Dr. M. V. Ghorpade

Registrar,
Krishna Vishwa Vidyapeeth, Karad

And above all

Hon. Dr. Sureshji Bhosale

Chancellor, KVV,

Chairman, Krishna Charitable Trust, Karad

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Graphics:

Narration:

Editor: