Tablets excipients

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EXCIPIENTS USED IN FORMULATION OF TABLETS

1. Diluents
2. Granulating agents
3. Binding agents
4. Disintegrating agents
5. Lubricants
6. Adsorbents
7. Colouring agents, Flavouring agents and Sweetening agents.

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- **DILUENTS :**

- The diluents is needed in the formulation of tablets, when the quantity of medicament in each tablet is very small & it is not possible to make a good tablet.
- **E.g. Lactose, Sucrose, Sodium chloride, Dextrose, Starch, Mannitol, Sorbitol, Calcium sulphate dihydrate, dibasic calcium phosphate dihydrate.**

- **GRANULATING AGENTS :** Those agents converts the fine powder into granules .

- By providing proper moisture to convert fine powder to damp mass.
- **E.g. Water, Alcohol, Mucilage of starch, Mucilage of acacia, Mucilage of tragacanth, Gelatin solution, Iso-propyl alcohol, Acetone etc.**

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- **BINDING AGENTS :**

- These agents provides good strength to the granules, in order to keep the tablet intact after compression.
- Concentration of binding agents depends upon the type of tablet i.e. In lozenges & implants tablets have very high conc. of binding agents.
- Whereas in other cases where the tablets has to disintegrate quickly in that conc. of binding agent used in lower proportion.
- Binding agents used along with granulating agents.
- **E.g. Acacia powder, Tragacanth, Gelatin, Sucrose, Methyl cellulose.**

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- **DISINTEGRATING AGENT :**

- Disintegration agents gives ensured to disintegrate of the tablets into smaller particles when swallowed.
- These agents are used in the formulation of oral or sublingual tablets.
- Those agents divided into two parts, one part is mixed with other excipients before granulation & other part is mixed with the dry granules before compression.
- They act in three ways :

1. By swelling : in contact with water or moisture e.g. maize starch, potato starch, methyl cellulose & bentonite.
2. By producing effervescence : e.g. sodium bicarbonate, citric acid & tartaric acid.
3. They melt at body temperature : e.g. cocabutter.

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- **LUBRICANTS :** They provide to improve appearance, flow properties & use to prevent the sticking of the materials to the dies & punches.
- Means they play three roles Viz.. Lubricant, Glidants & anti-adhesive agents.
- **E.g Talc, Magnesium stearate, calcium stearate, sodium chloride, Boric acid, Starch, Liquid paraffin, Stearate acid etc.**

- **ADSORBING AGENTS :** These substances are used to adsorb volatile oil, liq.extract & tinctures etc. which are included in the formulation of tablets.

- **E.g. Magnesium carbonate, Kaolin & Starch**

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- **COLOURS, FLAVOUR & SWEETNING AGENTS:**

- Colours produce elegance effect on tablet.
- Certified F.D & C dyes are used. They mixed with granulating agents or mixed with other ingredients before granulation.
- Flavours are used mainly in Lozenges, effervescent & in chewable tablets.
- Falvouring agents is dissolved in organic solvents & then sprayed on the granules.
- Sweetening agents use to improve the taste of tablets.
- Now a days artificial sweetening agents are used e.g. Saccharin & Cyclamates.
- Commonly used sweetening agents are Sucrose, Lactose, Mannitol.

thank you!