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Liquid Mixing

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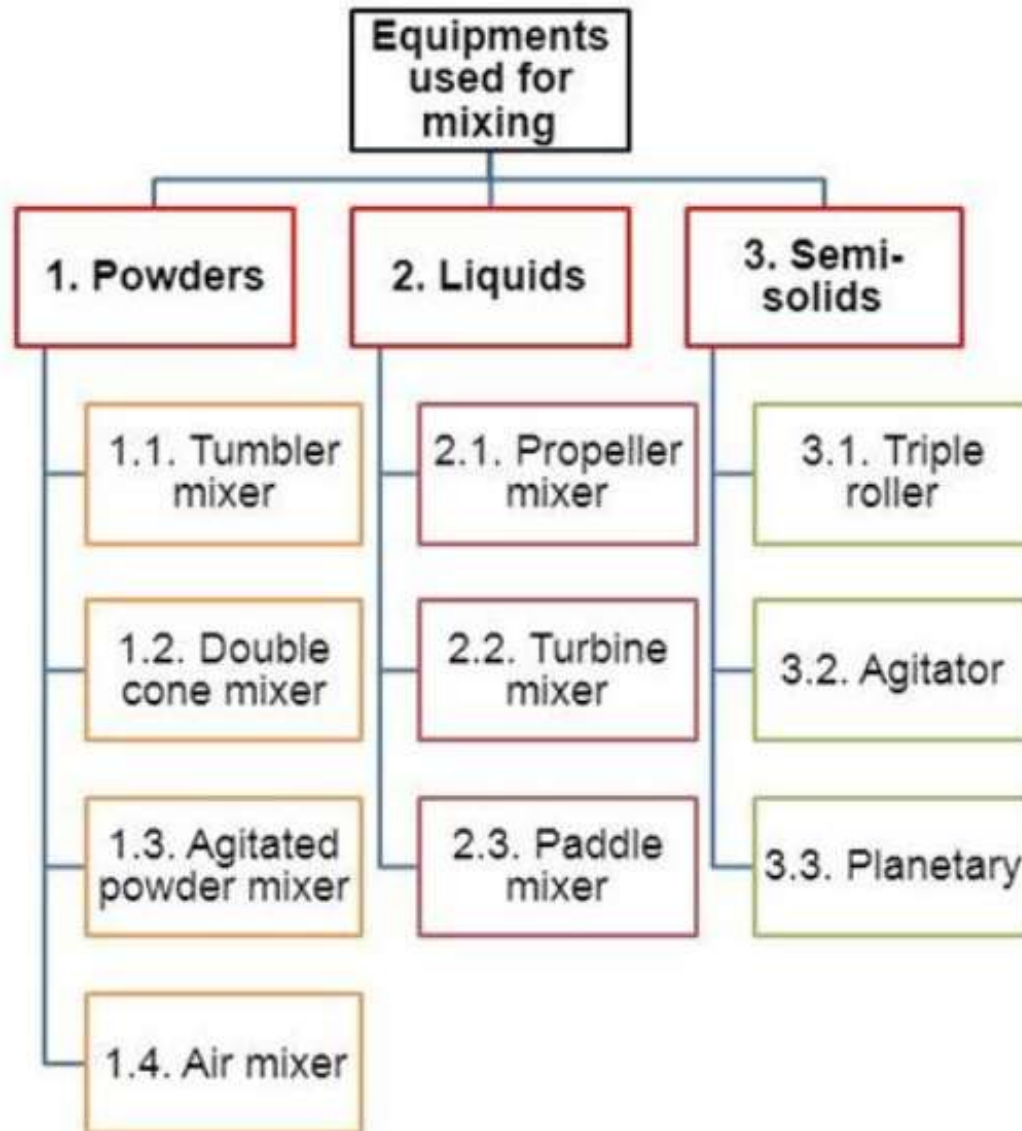
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4. Homogenization (Mixing of immiscible Liquids)

- 4.1. Hand homogenizer
- 4.2. Silverson homogenizer
- 4.3. Colloidal mill

5. Viscosity



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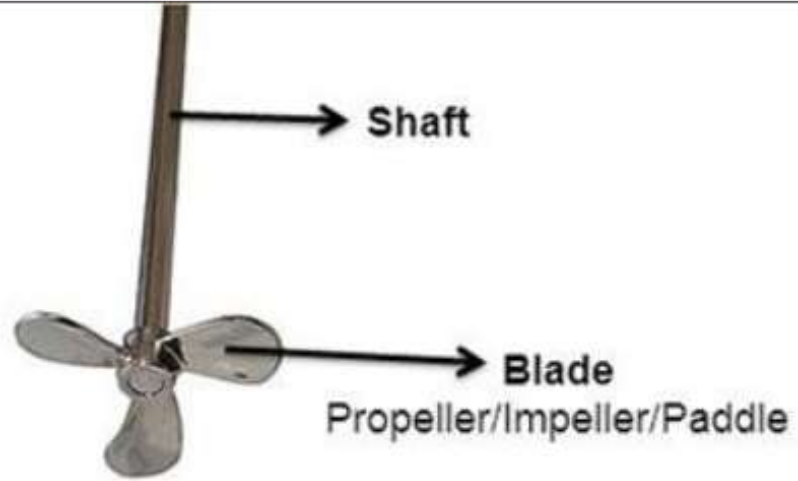
2. Mixing of liquids

Vessel





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Propeller

Impeller



Paddle



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2.1. Propeller mixer

1. It consists of a **vessel** and **propeller**.
2. The propeller operates at a speed up to **8000 rpm**.
3. During mixing of liquids **air get entrapped** and leads to the formation of **vortex**. These can be avoided by making the following changes in the position of propeller shaft

- i. Offset from the **centre**
- ii. Mounted at **angle**
- iii. Enter the **side of the vessel**
- iv. Using **push pull propeller**
- v. By the use of **baffles**



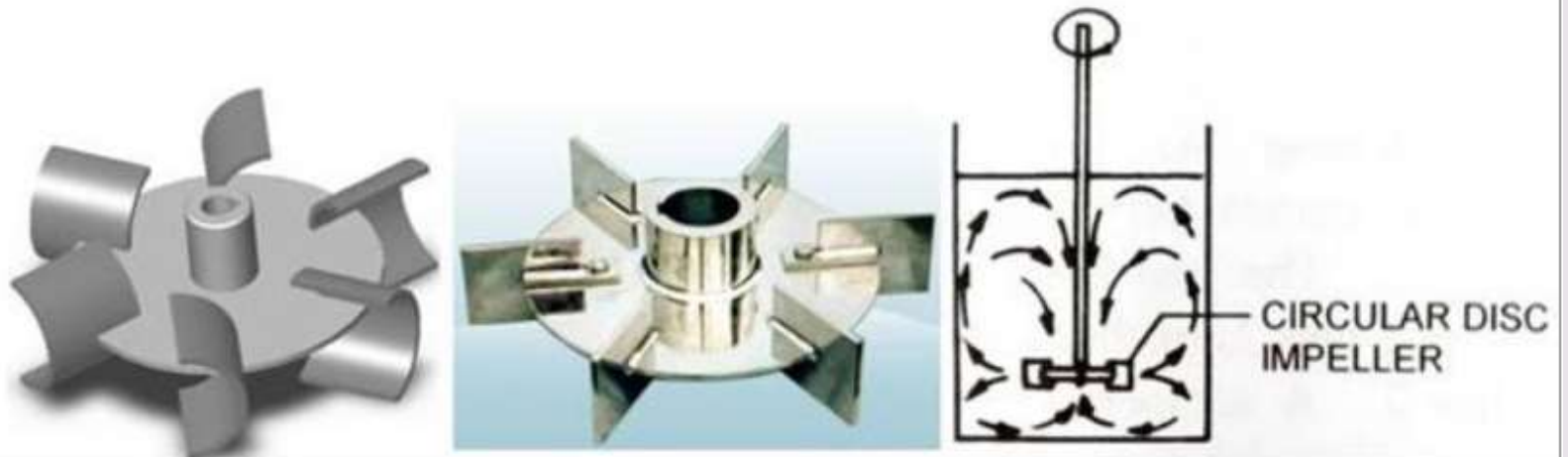


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2.2. Turbine mixer

1. It consists of **vessel** and a circular disc impeller
2. A number of **short, straight or curved** blades are attached to it.
3. The turbine mixer is used for mixing of more viscous liquids. E.g. syrups, liquid paraffin, glycerine etc.,





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2.3. Paddle mixer

1. Flat blades are attached to a vertical shaft and rotates at a low speed of 100 rpm.
2. For mixing of low viscous liquids simple flat paddles are used. But for mixing high viscous liquids, the **big** paddles are used.





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Thank you

