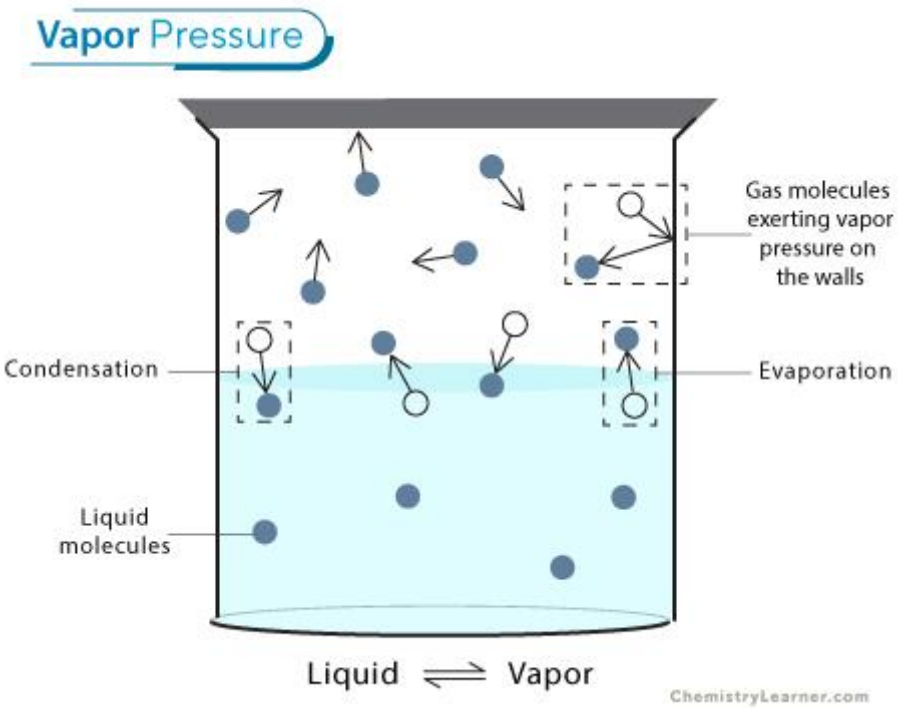
Vapour Pressure

- **Definition:** Vapour pressure is the pressure exerted by the vapours of a liquid on the walls of a closed container at equilibrium at a given temperature.
- **Process:** In a closed container, liquid molecules escape into the air above as vapour.
- Initially, evaporation rate is slow; as vapour molecules condense back, the rates eventually equalize, leading to equilibrium.
- **Factors:** Rate of evaporation = Rate of condensation at equilibrium.
- **Importance:** Vapour pressure *depends on temperature* and the nature of the liquid.

✓ Higher temperature = Higher vapour pressure.

✓ More volatile liquids = Higher vapour pressure.



Sublimation Critical Point

- **Definition:** Sublimation is a process in which any solid directly converted into gas without converting into liquid phase.
- **Critical Point:** The sublimation critical point is the *specific temperature and pressure* at which a substance changes directly from solid to gas.
- **Triple Fusion Point:** On a phase diagram, the triple point is where all three states (solid, liquid, gas) exist in equilibrium. Sublimation critical point is *where solid-gas change* happens at unique conditions.
- **Practical Use:** Used for substances like dry ice and certain pharmaceutical applications where skipping the liquid phase is needed.