

Homogeneous mixtures or Solutions

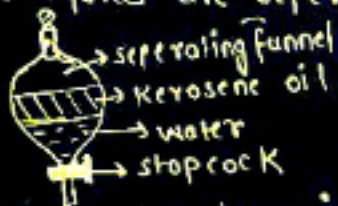
- particles get uniformly distributed and are very stable
- Does not show Tyndall effect
- Can't be seen by naked eyes
- Special methods are used to separate the particles
- Size of particles
- eg: Salt in water, sugar in water, alloys etc.



- Tyndall effect: The phenomenon in which light gets passed through the mixture due to scattering when hit by particles.

- Alloys: A type of solution when two metals get mixed to form a new mixture.

Methods to separate solutions :-

1. **Evaporation**: It is the method in which volatile component (solvent) gets converted into vapours below boiling point.
eg: separating dye from water in ink.
2. **Centrifugation**: The process in which denser particles are forced to the bottom and lighter particles stay at the top when spun rapidly.
eg: separating cream from milk, used in blood & urine tests.
3. **Using separating funnel**: In this two immiscible liquids are separated using a separating funnel by keeping it undisturbed.
eg: separating mixture of oil and water in extraction of iron from its ore.

4. **Chromatography**: It is the method to separate those solutes that dissolve in the same solvent.
eg: to separate colors in dye, pigments from natural colors, drugs from blood.
5. **Distillation**: Used to separate mixtures by boiling having B.P. difference greater than 25°C .
eg: separating acetone and water.
6. **Fractional Distillation**: Used to separate mixtures by boiling having B.P. difference less than 25°C .
eg: separating gases from air, etc.
7. **Crystallisation**: The process to purify a solid in its crystal form from its solution.
eg: obtaining pure copper sulphate from an impure one, purification of salt from sea water.

Physical changes: The change in which no new substance is formed.
eg: freezing of water, boiling of water etc.

Chemical changes: The change in which new substances are formed.
eg: rusting of iron, cooking of food etc.

Acc. to purity of matter it is divided into 2 parts

