

Dispersion method:

This is a general principle concerning many particles into colloidal particles.

(1) Milling and grinding:

This is a process of size-reduction, in which the coarse particle will be milled to form colloidal particles.

ex - colloidal zinc oxides

(2) Peptization

→ It is defined as the breaking up of aggregates or secondary particles into the primary or colloidal size.

→ A peptizing agent is used for disaggregation of particles so that they won't combine again.

ex - citric acid, tartaric acid.

peptizing agent ex -
liquids, non-electrolytes

(3) Electric arc method:

In this method an intense electric arc is produced between 2 metal electrodes under the surface of cold water.

→ Due to intense heat generated by the arc the metal electrodes release as vapour which then condense to colloidal particles.

ex - silver & gold sols

* ultrasonic treatment:-

passage of ultrasonic wave through a dispersion medium produces vibrating region ~~com~~ or cavity & compression region.

→ These cavity collapses with a breakdown of coarse particles.

→ Here the stabilizing agent is used to prevent the reunion of dispersed particles.

→ Hence ultra.

* condensation method:-

In case of super saturation in H_2O by an electrolyte the crystals are formed then the crystallization occurs by the process of growth of nuclei.

→ These nuclei will be converted into the colloidal particles by the process of nucleation.

* Addition of non-solvent:-

Sulphur is soluble in alcohol then concentrated alcoholic solution of sulphur is poured into the excess amount of H_2O .

→ The sulphur which is present in molecular state in alcohol get precipitated as finely divided particles. These particles grow rapidly and form colloidal dispersion.

* Association colloids:-

Each molecule of surfactant is an amphiphile.

→ These amphiphiles individually termed as monomers.

→ Each monomer has polar head & non-polar tail.

→ The size of the each monomer is very less but their aggregation forms micelle and their size increases about 50x
 → The concentration at which the micelle starts forming called critical micelle concentration

(cmc)

→ whenever the micelle are formed they are termed as association colloids
 → Each species helps in solubilization of polar solute in non-polar solvent & non-polar solute in polar solvent.

→ The association is formed by each monomer forms either a hydrophilic pocket or lipophilic pocket which increases the solubility

