

CHEMISTRY STUDY MATERIALS FOR CLASS 9

(NCERT based Revision Notes on Chapter - 2)

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Is Matter Around Us Pure

What is a suspension?

A suspension is formed when two or more substances are mixed in a non-uniform manner. Heterogeneous mixtures are suspensions. The solute does not mix with the solvent and can be viewed through naked eyes.

Properties of Suspensions:

- A suspension is a heterogeneous mixture.
- We can see the particles of suspensions through naked eyes.
- We can see the path of light through the particles of a suspension.
- The particles of suspension tend to settle down when left undisturbed. Then, they can be separated using filtration.

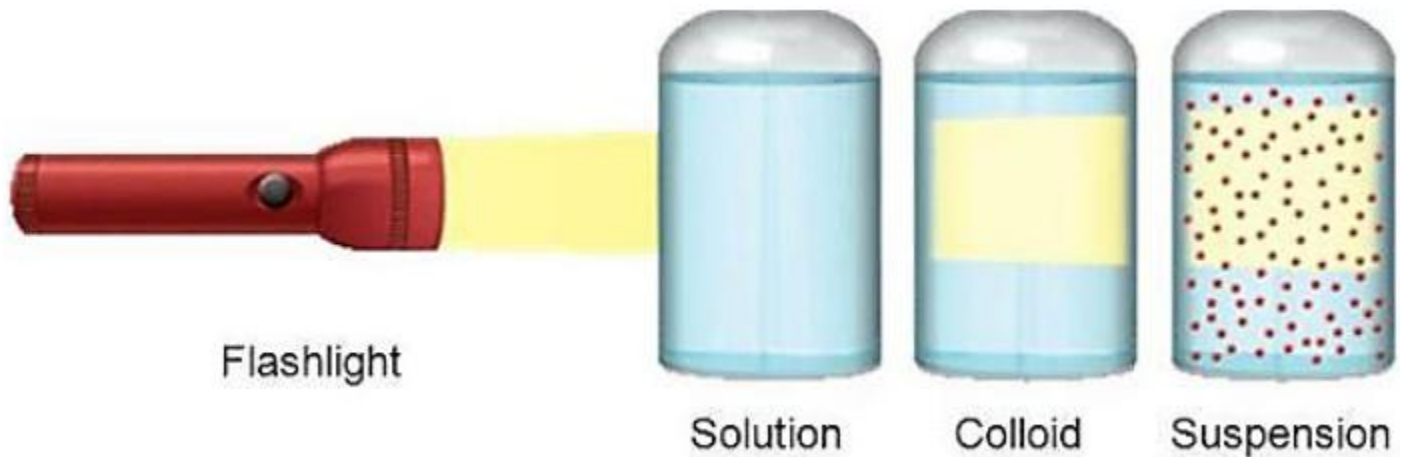
What are colloids or colloidal solutions?

A colloidal solution or a colloid is a uniform solution of two or more substances. The particles are relatively very small that the solution appears as a homogeneous mixture but it is not.

Properties of colloids:

- Colloids are heterogeneous in nature.
- The particles of a colloid cannot be seen through naked eyes.
- The particles scatter a beam of light passed through a colloid and produce Tyndall effect.
- Colloids are stable in nature. The particles of colloids do not settle down if left uninterrupted.

- We cannot separate the particles of a colloid through filtration. We use a method called **Centrifugation** to separate the particles of a colloid.



What is the Tyndall Effect?

When a beam of light is passed through a colloid the particles of the colloid scatter the beam of light and we can see the path of light in the solution. **For Example**, when a ray of light enters a dark room it is scattered by the dust particles present in the air and we can see the path of light clearly.



Classification of Colloids

Dispersed Phase – The dispersed particles or the solute-like components in a colloid

Dispersing Medium – The substance in which these solute-like particles are added

Based on the state of the dispersing medium colloids are classified as:

Types of Colloids

Example	Dispersing Medium	Dispersed Substance	Colloid Type
Fog, Aerosol sprays	Gas	Liquid	Aerosol
Smoke, Airborne bacteria	Gas	Liquid	Aerosol
Whipped cream, Soap suds	Liquid	Gas	Foam
Milk, Mayonnaise	Liquid	Liquid	Emulsion
Paints, Clays, Gelatin	Liquid	Solid	Sol
Marshmallow, Styrofoam	Solid	Gas	Solid foam
Butter, cheese	Solid	Liquid	Solid emulsion
Ruby glass	Solid	Solid	Solid sol

How to separate components of a mixture?

We can separate the heterogeneous mixtures into their constituents by means of physical methods like:

- Filtration
- Hand-picking
- Sieving
