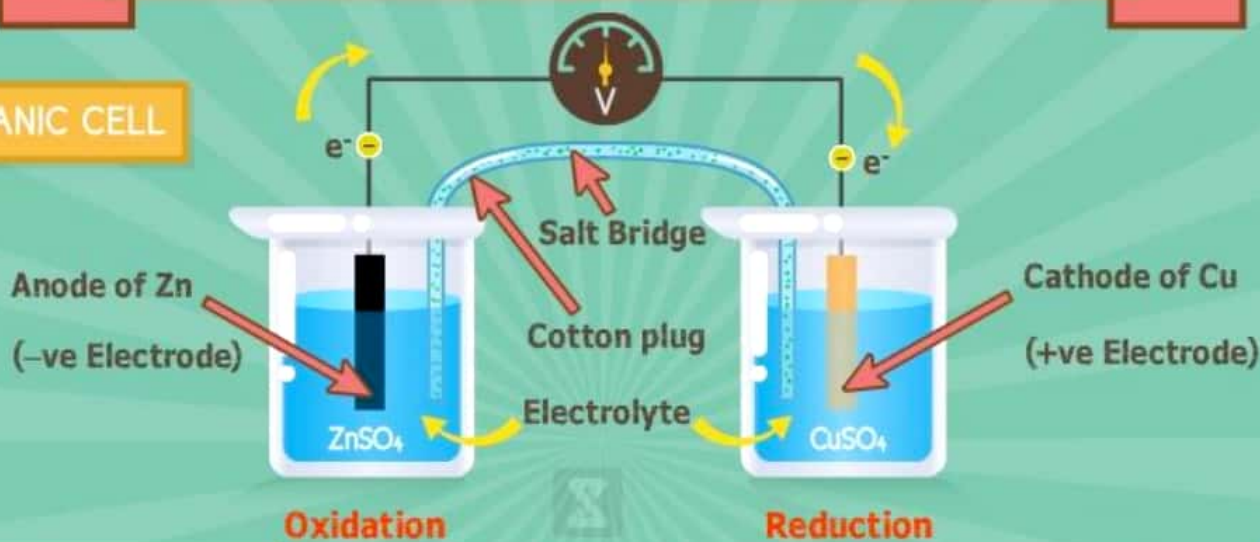


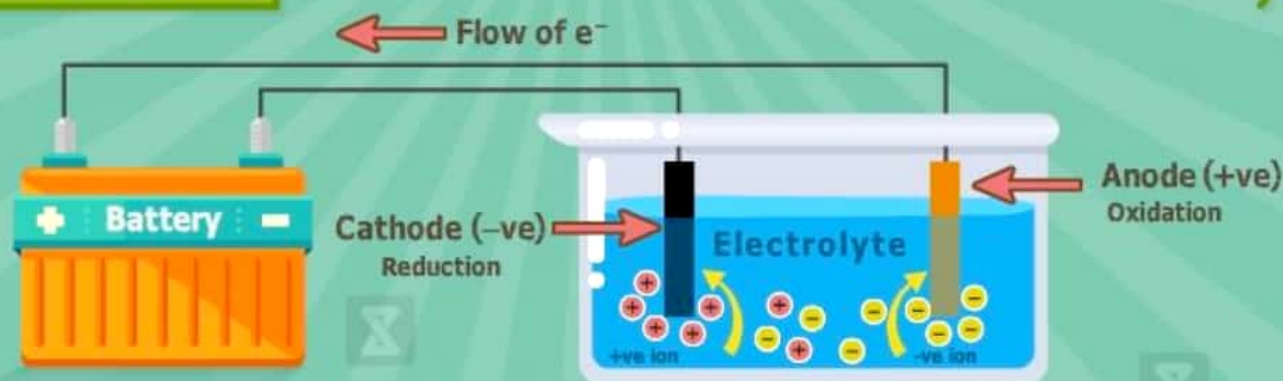
ELECTROCHEMISTRY

COMPARING GALVANIC AND ELECTROLYTIC CELL

GALVANIC CELL



ELECTROLYTIC CELL

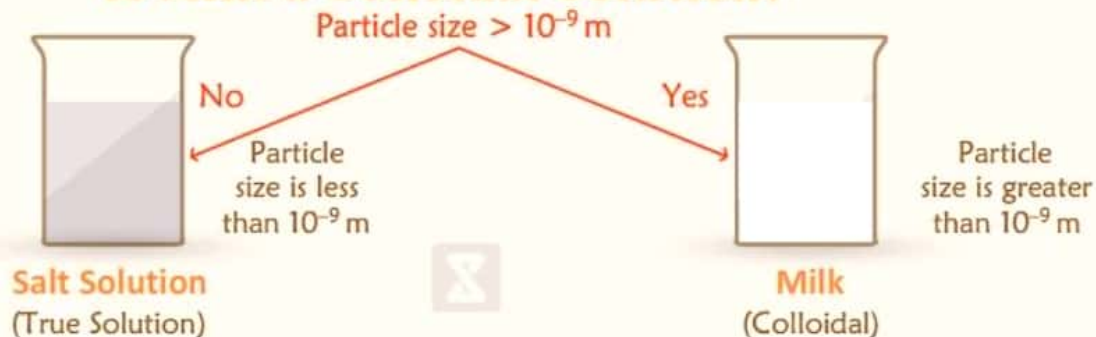


| PROPERTY | ELECTROLYTIC CELL | GALVANIC CELL |
|--|---|---|
| Basic structure | Two half cells connected by salt bridge. | Both electrodes placed in same container |
| Energy conversion | Electrical energy \rightarrow Chemical energy | Chemical energy \rightarrow Electrical energy |
| Transfer of electrons on the electrode | Positive(anode) \rightarrow Negative(Cathode) | Negative(anode) \rightarrow Positive(Cathode) |
| Anode | Positively charged electrode | Negative terminal cell |
| Cathode | Negatively charged electrode | Positive terminal cell |



WHAT ARE COLLOIDS ?

Is Milk a Colloidal Solution?



Colloids are everywhere around us

Colloid = dispersed phase + dispersed medium

How Curd is Formed ?

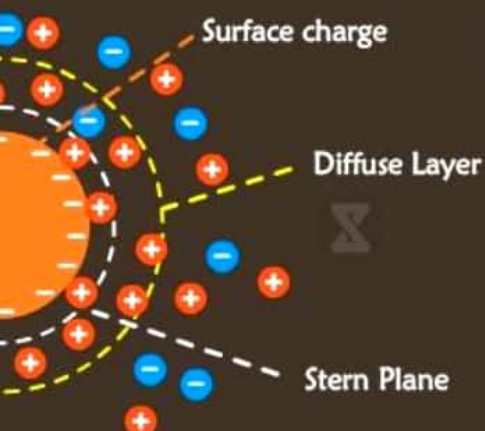
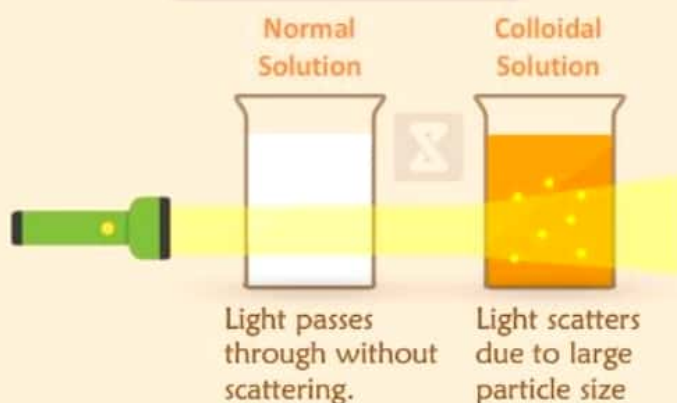
Coagulation : It is a process of forming precipitate by adding electrolyte to a colloidal solution.



Adding electrolytes to colloidal solution causes opposite charge to combine and form precipitate. Here acid is the electrolyte added and curd is the precipitate formed.

Tyndall Effect

Tyndall effect is observed in morning, where sunlight scatters due to colloidal solution i.e. Fog.



Stability of Colloids

Colloids are generally unstable. They are stabilised by forming an electric double layer.

Surface Charge :- Formed by absorbing charged ions on particle.

Diffuse Layer :- Diffuse layer consists of both the ions with higher concentration of counter ions.

Stern Layer :- Layer formed due to electrostatic attraction of opposite ions to the particle surface

12 AMAZING COLLOIDS USED IN OUR DAILY LIFE

Colloid is a homogeneous non-crystalline substance consisting of large molecules or ultra-microscopic particles of one substance dispersed through a second substance



Solid



Liquid



Gas



Paint



Ice Cream



Tooth Paste



Smoke



Jam



Sponge



Milk



Clouds



Butter



Hair Gel



Blood



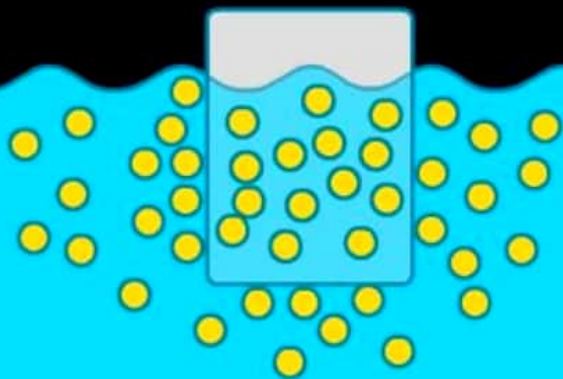
Shaving Cream



Absorption

Adsorption

VS

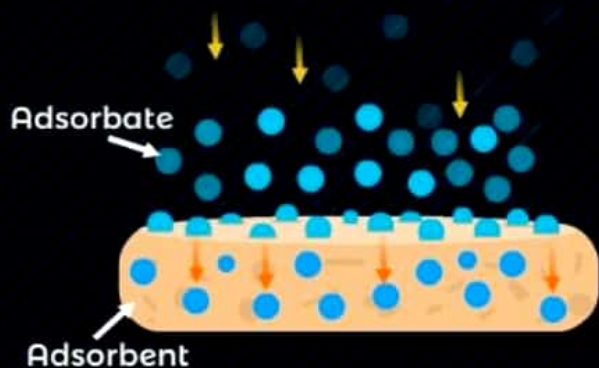


Absorption

Absorption is the distribution of a certain substance through out the volume of another substrate.

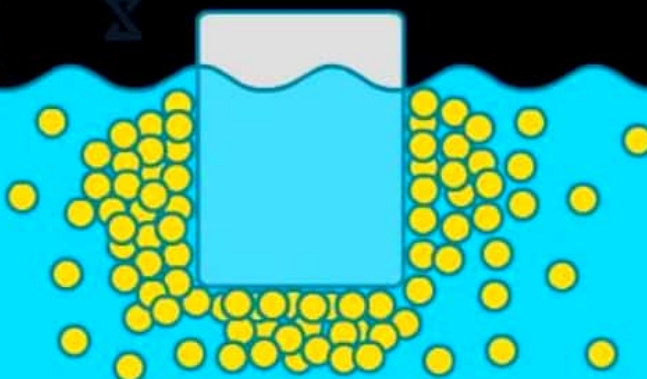
Absorbed materials can be separated between different phases due to their chemical characteristics.

ILLUSTRATION



Materials get absorbed into other material through the availability of space and also due to the properties of each material.

Absorbed materials remain within the space of the absorbent without having a chemical relationship being perfectly intact as when it is free

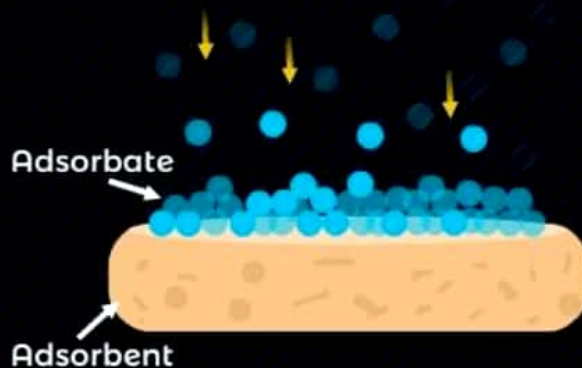


Adsorption

Adsorption is the attachment of a certain substance onto the surface of another substrate.

Adsorption can be used to separate out certain material by adsorbing them onto one surface.

ILLUSTRATION



The vacant surface of the adsorbent has extra energy that stimulates the attachment of foreign molecules on to it.

Adsorbates bind onto the surface of the adsorbent most commonly through van der waals interactions or through covalent bonds.