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**Hardy-Schulze law**

According to Hardy-Schulze rule, greater the valency of the active ion or flocculating ion, greater will be its coagulating power. The coagulation capacity of different electrolytes is different. It depends upon the valency of the active ion are called flocculating ion, which is the ion carrying charge opposite to the charge of the colloidal particles.

The Hardy Schulze law states the following points:

* Coagulating power of an electrolyte is directly proportional to the valency of the active ions.
* - The ions which are carrying the charge opposite to that of sol particles are effective in causing coagulation of the sol.

**Gold Number**

The Gold number is defined as the number of milligrams of the protective colloid in dry state which when added to 10 ml of a colloidal solution of gold, prevents the gold solution from coagulation on addition of 1 ml of 10%  NaCl solution.”

* Gold number of different lyophillic colloids are different. Lesser is the gold number greater is the protective power.

**Emulsion**

An  **emulsion**  is a [colloid](https://www.thoughtco.com/definition-of-colloid-chemistry-glossary-605840) of two or more [immiscible](https://www.thoughtco.com/definition-of-immiscible-and-example-605237) [liquids](https://www.thoughtco.com/definition-of-liquid-604558) where one liquid contains a dispersion of the other liquids. In other words, an emulsion is a special [type of mixture](https://www.thoughtco.com/mixture-definition-chemistry-glossary-606374) made by combining two liquids that normally don't mix. The word emulsion comes from the Latin word meaning "to milk" (milk is one example of an emulsion of fat and water). The process of turning a liquid mixture into an emulsion is called **emulsification.**Examples of Emulsions

* Oil and water mixtures are emulsions when shaken together. The oil will form drops and disperse throughout the water.
* Egg yolk is an emulsion containing the emulsifying agent lecithin.
* Crema on espresso is an emulsion consisting of water and coffee oil.
* Butter is an emulsion of water in fat.

**Micelles**

In aqueous solution, molecules having both polar or charged groups and non polar regions (amphiphilic molecules) form aggregates called micelles. In a micelle, polar or ionic heads form an outer shell in contact with water, while non polar tails are sequestered in the interior. Hence, the core of a micelle, being formed of long non polar tails, resembles an oil or gasoline drop. The length of the non polar tail, the nature and size of the polar or ionic head, the acidity of the solution, the temperature, and the presence of added salts are the most important factors determining the kind of the obtained aggregate. If those parameters are changed, it is possible to change shape and size of the micelles. The number of amphiphilic molecules forming the aggregate is called aggregation number; it is a way to describe the size of the micelle.

Micelles are widely used in industrial and biological fields for their ability to dissolve and move non polar substances through an aqueous medium, or to carry drugs which are, often, scarcely soluble in water. The carrying ability of micelles can be altered if parameters determining their size and shape are changed.