

## Key Terms

### Solutions

**homogeneous** - Uniform in structure or composition throughout.

**heterogeneous** - Consisting of dissimilar elements or parts; not homogeneous.

**solution** - A homogeneous mixture of two or more substances, which may be solids, liquids, gases, or a combination of these.

**mixture** - A composition of two or more substances that are not chemically combined with each other and are capable of being separated.

**solute** - A substance dissolved in another substance, usually the component of a solution present in the lesser amount.

**solvent** - A substance in which another substance is dissolved, forming a solution.

**miscible** - That can be mixed in all proportions.

**immiscible** - That cannot undergo mixing or blending.

**alloy** - A homogeneous mixture or solid solution of two or more metals, the atoms of one replacing or occupying interstitial positions between the atoms of the other

**filtration** - The act or process of separating or (completely or partially) removing selected components of a mixture by means of a filter.

**suspension** - A system in which microscopically visible particles are dispersed throughout a less dense liquid or gas from which they are easily filtered but not easily settled because of system viscosity or molecular interactions

**Tyndall effect** - Visible scattering of light along the path of a beam of light as it passes through a system containing discontinuities, such as the surfaces of colloidal particles in a colloidal solution.

**colloid** - A system in which finely divided particles, which are approximately 10 to 10,000 angstroms in size, are dispersed within a continuous medium in a manner that prevents them from being filtered easily or settled rapidly.

**rate of solution** - How quickly a solute dissolves in a solvent. Factors determining the rate of solution are: surface area, stirring, amount of solute already dissolved, and temperature.

**Henry's Law** - Chemical law stating that the amount of a gas that dissolves in a liquid is proportional to the partial pressure of the gas over the liquid, provided no chemical reaction takes place between the liquid and the gas.

### Solubility

**electrolytes** - A chemical compound that ionizes when dissolved or molten to produce an electrically conductive medium.

**nonelectrolytes** - A substance whose molecules in solution do not dissociate to ions and thus do not conduct an electric current.

**concentrated** - Having a high concentration of the solute..

**dilute** - Describing a solution that has a relatively low concentration of solute.

**solubility** - The amount of a substance that can be dissolved in a given amount of solvent.

**aqueous** - Dissolved in water.

**tincture** - A solution with alcohol as the solvent.

**emulsion** - A suspension of small globules of one liquid in a second liquid with which the first will not mix: an emulsion of oil in vinegar.

**saturated** - Combined with or containing all the solute that can normally be dissolved at a given temperature.

**supersaturated** - To cause (a chemical solution) to be more highly concentrated than is normally possible under given conditions of temperature and pressure.

## **Molarity and Colligative Properties**

**molarity** - The molar concentration of a solution, usually expressed as the number of moles of solute per liter of solution.

**molality** - The molal concentration of a solute, usually expressed as the number of moles of solute per kilograms of solvent.

**colligative property** - Properties dependent on the number of molecules but not their nature.