SOLUTIONS.

TYPES OF SOLUTIONS.

SOLUBILITY.

Solutions are homogeneous systems consisting of two or more components and the products of their interaction.

Compulsory components of the solution are the solvent and the **solute**.

The **solvent** is the solution component present in greatest quantity or the component that determines the state of matter in which a solution exist.

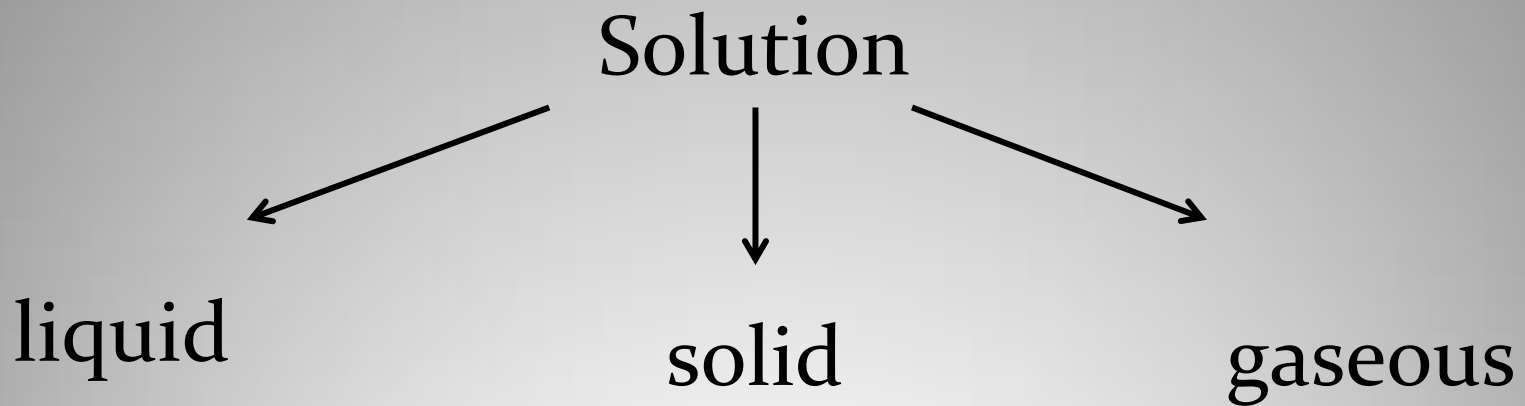
The **solute** is the solution component present in lesser quantity than the solvent.

A solution in which water is the solvent

is called an **aqueous solution**.

A solution containing a relatively large quantity of solute is said to be **concentrated**. If the quantity of solute is small, the solution is **dilute**.

Types of solution



In a **liquid solution** the **solvent** is a **liquid** substance.

For examples: gasoline is mixture of a number of liquid hydrocarbons.

Seawater is an aqueous solution of sodium chloride and other ionic solids.

Carbonated water is an aqueous solution of CO_2.

All gaseous mixtures are solutions.

The best known example of a gaseous solution is air, which consists of N_2, O_2, CO_2 and other gases.

In a solid solution the solvent is a solid substance. The ability to form solid solution is particularly common among metals, and such solid solutions are called **alloys**. For example: an alloy of nickel and copper, an alloy of gold and silver.

Dissolving of a substances in solvent.

Solubility

Dissolving of substances in solvent are:

1. The destruction of crystalline lattice.

2. The interaction of the solvent with the particles of the solute.

3.The uniform distribution of one substance in the whole volume of another substance.

Solubility is the ability of the substance to uniformly distribute in the whole volume of another substance.

Solubility depends on the nature of substances, temperature and pressure. For example, solubility of solid substances increases and gases decreases with the raising of temperature. Solubility of gases increases with raising pressure.

A solution in which under the certain temperature the solute cannot be dissolved any more is called a **saturated** solution.

A solution in which under the certain temperature more solute can be dissolved is called an **unsaturated** solution.