

## SOLUTION

SOLUTION IS A SINGLE PHASE HOMOGENEOUS MIXTURE OF SOLUTE AND SOLVENT .

NOTE →

[1] IN SOLUTION THE AMOUNT OF SOLVENT IS ALWAYS HIGHER THAN THE AMOUNT OF SOLUTE.

[2] THE SOLUTE AND SOLVENT ARE KNOWN AS COMPONENTS OF SOLUTION .

[3] THE PHYSICAL PROPERTIES OF SOLUTION DEPENDS ON THE PROPERTIES OF SOLVENT .

[4] THE CHEMICAL PROPERTIES OF THE SOLUTION DEPENDS ON THE PROPERTIES OF SOLUTE.

## CLASSIFICATION OF SOLUTION

[A] ON THE BASIS OF THE NO. OF COMPONENTS SOLUTION CAN BE CATEGORISED FOLLOWING GROUPS - >

[1] BINARY SOLUTION - > IT CONTAINS ONE SOLUTE AND ONE SOLVENT.[EX.-> SALT + WATER ]



[2] TERTIARY SOLUTION -> IT CONTAIN 1 SOLUTE + 2 SOLVENTS OR 2 SOLUTES + 1 SOLVENT [EX.SALT+WATER+ SUGAR ]

[B] ON THE BASIS OF PHYSICAL STATE OF SOLUTE AND SOLVENT IT CAN BE CATEGORISE IN TO FOLLOWING GROUPS ->

PHYSICAL STATE OF SOLVENT	PHYSICAL STATE OF SOLUTE	TYPE OF SOLUTION	EXAMPLE
Solid	solid	solid-solid	alloys
solid	Liquid	S-L Solution	salt+water
solid	Gas	S-G solution	camphor+N <sub>2</sub>
liquid	Solid	L-S Solution	hydrated salt
liquid	Liquid	L-L Solution	Alcohol+water
liquid	Gas	L-G Solution	Aerosols
Gas	Solid	G-S Solution	H <sub>2</sub> in pd
Gas	Liquid	G-L Solution	Aerated drink
Gas	Gas	G-G Solution	Air



[C] ON THE BASIS OF THE AMOUNT OF SOLUTE PARTICLES ->

[1] Dilute solution -> less than 5% solute +95% to **99% solvent**.

[2] Concentrated solution -> 30% to 40% solute and 60 %to70% solvent.

[3] Unsaturated solution ->more amount of solute is dissolve in given volume of a solvent ,at a particular temp .

[4] Saturated solution-> fixed amount of solute is dissolve in given volume of a solvent, at a particular temp.

[5] Super saturated solution -> It is a solution that contain more of the dissolved material than could be dissolved by the solvent under normal circumstance .It can also refer to a vapour of a compound that has a higher partial pressure than the vapour pressure of that compound .

CONCENTRATION OF THE SOLUTION OR STRENGTH OF THE SOLUTION ->



CONCENTRATION OF THE SOLUTION OR POWER OR STRENGTH OF THE SOLUTION->

HOW MUCH AMOUNT OF THE SOLUTE PRESENT IN THE GIVEN AMOUNT OF SOLVENT AT A PARTICULAR TEMPERATURE IS KNOWN AS CONCENTRATION OR POWER OR STRENGTH OF THE SOLUTION .

THERE ARE CERTAIN TOOLS WHICH HELPS TO CALCULATE THE CONCENTRATION OF THE SOLUTION ->

- [1]MASS %
- [2] VOLUME %
- [3] MOLARITY
- [4] MOLALITY
- [5]NORMALTY
- [6] MOLE FRACTION

