

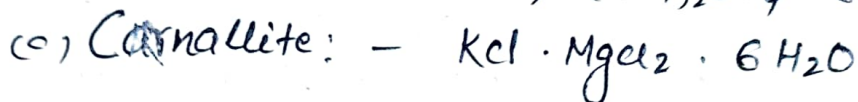
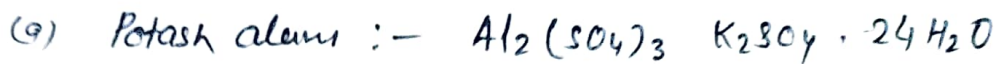
Co-ordination Compounds

When solution containing two or more salts in stoichiometric (simple Molar) proportions are allowed to evaporate then crystals of these compounds separate out. This separated new compound is categorized into ^{i.e.} two classes.

(1) Double salts (2) Complex salt or Coordination Compounds

1. Double salts :- Double salts are those compounds which exist only in crystal lattices but break down into their constituent compounds when dissolved in water or any other solvent. Its physical and chemical properties remain essentially the same as those of the individual compounds.

Example of double salts :-



These compounds are stable in solid state but when the lattice is disrupted on dissolution in water or any other solvent, they decompose into their individual components.

For example, :- A solution of Mohr's salt shows the same physical and chemical properties as a mixture of the solution of ferrous sulphate and ammonium sulphate.

2. Complex Compounds or Co-ordination Compounds

Coordination Compounds are those compounds whose identities even when dissolved in any other solvent and their properties are different from those of the constituents.

It will be understood by an example when aqueous ammonia is added to Nickel chloride, the colour changes from green to purple.

The Ni^{+2} ions almost disappear from solution. Ammonia enters into an intimate association with Ni^{+2} ion yielding a new ion of composition $[Ni(NH_3)_6]^{2+}$.

Now ion $[Ni(NH_3)_6]^{2+}$ is known as complex ion & the compound $[Ni(NH_3)_6]Cl_2$ is called complex salt or complex compound or coordination compound.

The properties of complex compound $[Ni(NH_3)_6]Cl_2$ are entirely different from those of free Ni^{2+} ion or ammonia.

Ionisation of the compound $[Ni(NH_3)_6]Cl_2$ occurs as:

