

V.V.V. imp. Co-ordination Compounds

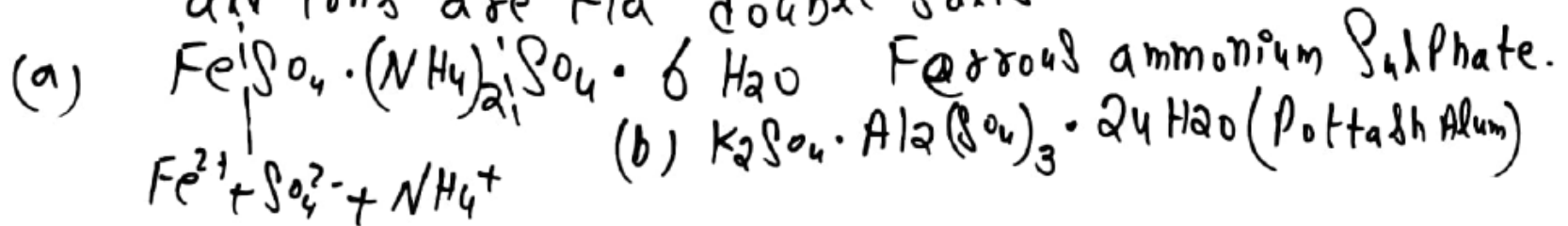
n.m. \Rightarrow 8-12.

Addition Compounds

When Aq. Soln of two salts is evaporated then the crystals are formed, are called addition compounds.

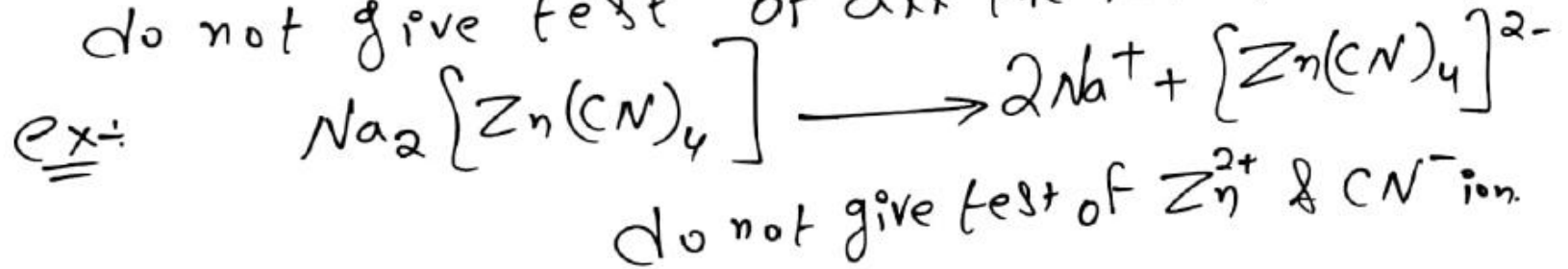
These are of two types:

① Double Salts: Those salts which are completely ionized in Aqueous solution and give test of all ions are k/a double salts.

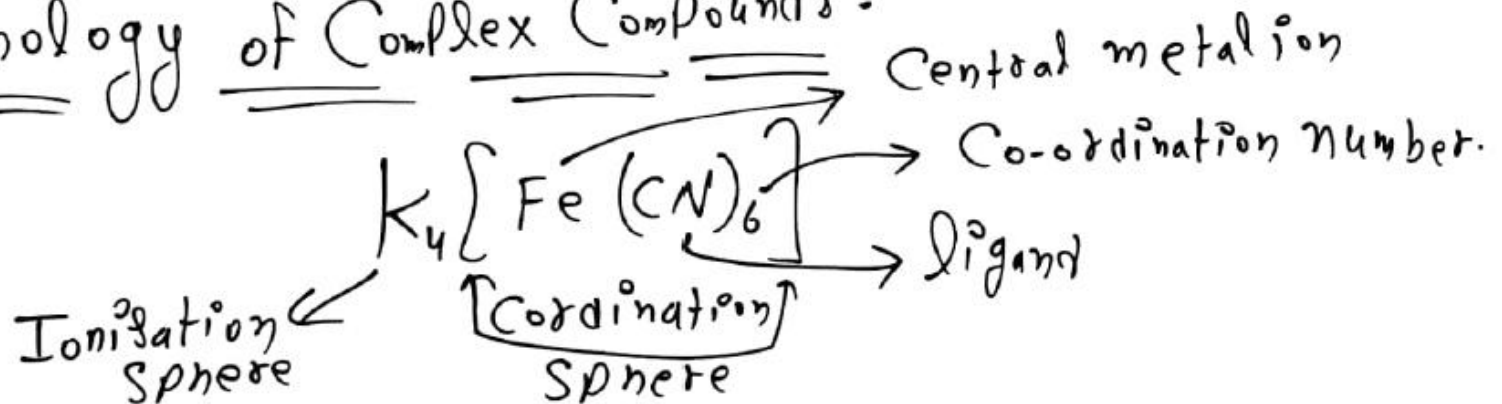


(2) Complex Salts

These do not ionise completely in water and do not give test of all the ions present in them.



Terminology of Complex Compound



Ligands \div Ligands are molecules or ions which donate e^- to central metal ion. Ligands are Lewis base.

Classification of Ligands \div

(A) Neutral Ligands

- (1) $H_2O \rightarrow$ Aqua
- (2) $NH_3 \rightarrow$ ammine
- (3) $CO \rightarrow$ Carbonyl
- (4) $NO \rightarrow$ Nitrosyl
- (5) $PH_3 \rightarrow$ Phosphine

(6) $PPh_3 \rightarrow$ Triphenyl phosphine.

(7) $\begin{array}{c} C_1H_2 - C_1H_2 \\ | \quad | \\ NH_2 \quad NH_2 \end{array} \rightarrow$ Ethylene Di-amine (en)

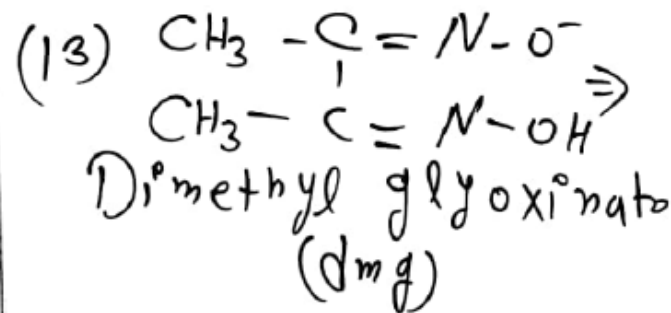
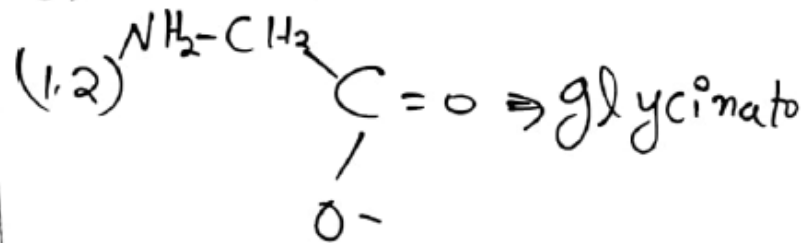
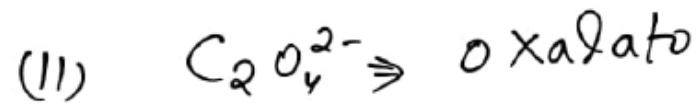
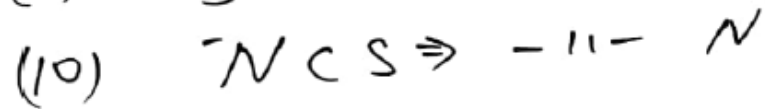
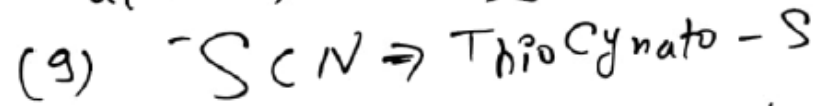
(8) $CH_3 - NH_2 \rightarrow$ methylamine

(9) $\begin{array}{c} CH_3 - CH - CH_2 \\ | \quad | \\ NH_2 \quad NH_2 \end{array} \rightarrow$ Propylene diamine

(10) $\begin{array}{c} CH_2 - CH - CH_2 \\ | \quad | \\ NH_2 \quad NH_2 \end{array} \rightarrow$ Trimethyl diamine

Anionic Ligands [Part - I] \Rightarrow "ite" \rightarrow "ito"
 "ate" \rightarrow "ato"]

- (1) $\text{CO}_3^{2-} \Rightarrow$ Carbonato
- (2) $\text{SO}_3^{2-} \Rightarrow$ Sulphito
- (3) $\text{SO}_4^{2-} \Rightarrow$ Sulphato
- (4) $\text{NO}_2^- \Rightarrow$ Nitrito-N
- (5) $\ominus \text{ONO} \Rightarrow$ Nitrito-O
- (6) $\text{HSO}_3^- \Rightarrow$ Hydrogen Sulphito
- (7) $\text{OCN}^- \Rightarrow$ Cynato-O
- (8) $\text{NCO}^- \Rightarrow$ Cynato-N



Anionic Ligands [Part - II \Rightarrow ending "ide" \Rightarrow "ido"]

(1) $X^- \Rightarrow$ halido

(2) $H^- \Rightarrow$ hydrido

(3) $OH^- \Rightarrow$ hydroxido

(4) $O_2^{2-} \Rightarrow$ peroxido

(5) $O_2^- \Rightarrow$ Super oxido

(6) $N^{3-} \Rightarrow$ Nitrido

(7) $NH_2^- \Rightarrow$ Amido

(8) $NH^{2-} \Rightarrow$ Imido

(9) $CN^- \Rightarrow$ Cynido

(10) $Nc^- \Rightarrow$ Iso cynido