

Dr. SUNJITA KUMARI (Asst. Professor)

Dept. of Chemistry

D-III B.Sc. Chemistry

Topic - Organometallic Chemistry

Applications of HSAB Principle: -

Lighter metal ions like Li^+ , Na^+ , Mg^{+2} , Ca^{+2} exist in the form of their Chlorides, Carbonates, Sulphates, Phosphates on the earth crust but cannot exist in the form of their Sulphides (S^{-2}) while on the other hand heavier metal ions like Ag^+ , Hg^+ , Cu^{+2} etc, exist in the form of their Sulphides on the earth crust and cannot exist in the form of CO_3^{-2} , O^{-2} , SO_4^{-2} etc.

Explanation: - Lighter metal ion like Li^+ , Na^+ , K^+ , Mg^{+2} , Al^{+3} etc form the stable hard combination with the O^{-2} , CO_3^{-2} , SO_4^{-2} , PO_4^{-3} on the earth crust due to which they exist in the form of their oxides, carbonates, sulphates and phosphates while these lighter metal ion forms the less stable, unstable hard soft combination with the sulphide ion due to which they cannot exist in the form of their sulphides on the earth crust.

To be continued