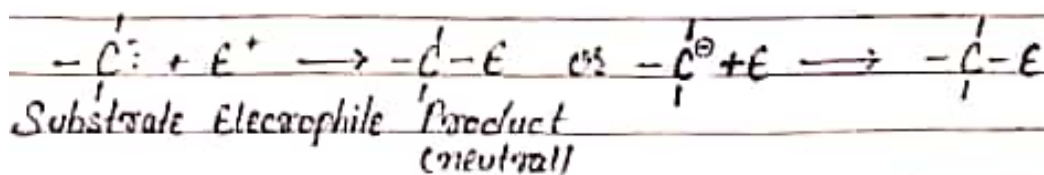


Electrophiles or Electrophilic reagents :

Electrophiles are electron loving species. (Electro = electron, Philic = loving) These species carry either +ve charge or neutral mols. with electron deficient centre. So a reagent which can accept an electron pair in a reaction, is called an electrophile. These attack regions of high electron density in the substrate molecule as to complete the octet.



There are two types of Electrophiles :

(i) +vely charged electrophiles : Those atom or molecule which are less than two electrons from octet or doublet are called +ve charged electrophiles.

e.g., H^+ (H_3O^+), Cl^+ , Br^+ , I^+ , NO^+ , R_3C^+ and other carbonium ion, NH_4^+ , NO^+ , $\text{C}_6\text{H}_5\text{-N}^+$

(ii) Neutral electrophiles : Those atom or molecule which have no charge but less than two electrons from octet it is called neutral electrophiles also called electron deficient compounds.

e.g., SO_3 , BF_3 , AlCl_3 , ZnCl_2 , FeCl_3 , BeCl_2 , ICl^+ , $(\text{RCO})_2\text{O}$, R-MgX , $:\text{CCl}_2$ (Carbene), $>\text{C}=\text{O}$

The star (*) indicates the atom which accept electrons from the substrate molecule.

Electrophiles act as Lewis acids. Reactions involving the attack of electrophiles are known as electrophilic reactions.