

Le Chatelier Principle:-

- if the system at equilibrium \rightleftharpoons and any external factor disturb
- the equilibrium can shift itself either to the forward \rightleftharpoons to return back to the equilibrium or backward \leftarrow

Factors that affect position of equilibrium

① Temperature

\rightleftharpoons Endo + Exo

\uparrow Temp shift to Endo

\downarrow " " " Exo

\uparrow Temp \uparrow rate

\downarrow " \downarrow "

② Pressure

\uparrow Pressure, shift to less gas mole.

\downarrow Pressure, shift to more gas mole.

\uparrow Pressure, \uparrow rate of less gas mole
 \uparrow rate of more gas mole

\downarrow Pressure, \downarrow rate of less ~~more~~ mole
 \downarrow rate of more mole

③ Concentration

\uparrow R \rightarrow shift forward
 \downarrow P

\downarrow R \rightarrow shift backward
 \uparrow P

① Temperature

\uparrow Temp \uparrow rate of endo
 \uparrow " " exo

shift to endo

\downarrow Temp \downarrow rate of endo
 \downarrow " " exo

shift to exo

ΔH
Enthalpy change

+ve gain Endo
-ve lose Exo

The sign of ΔH is always represent the forward reaction