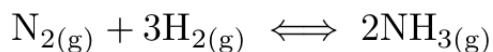


Equilibrium

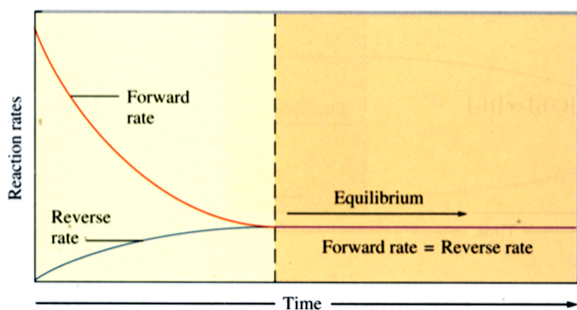
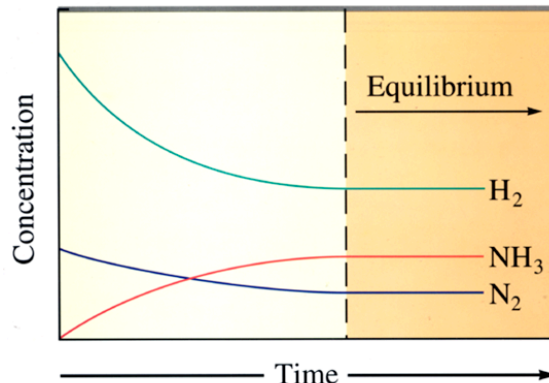
Equilibrium occurs when a reaction can occur both in forward and reverse.



Equilibrium occurs when the concentration of reactants and products becomes stable.

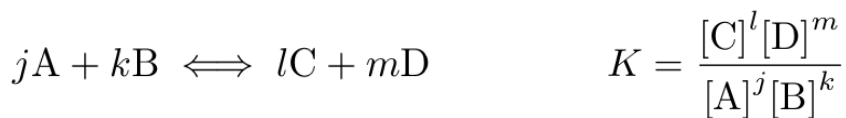
As the reaction proceeds the concentration of the products increases, this increases the rate of the reverse reaction.

When the rate of the forward and reverse reaction are equal we have obtained equilibrium.

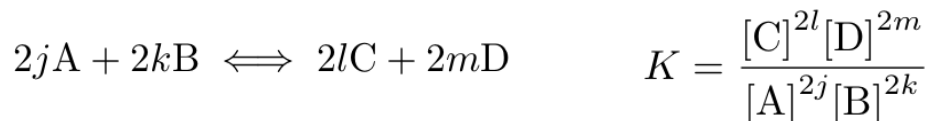


The Equilibrium Constant

A mathematical description of equilibrium was formulated Cato Guldberg and Peter Waage in 1864. The law of mass action relates the concentrations of the reactants and the products to a constant value, the equilibrium constant. The whole equation is the equilibrium expression.



Because the equilibrium expression depends on the coefficients, any change to the coefficients in the equation will change the equilibrium expression.



Ex: