**Chemical Equilibrium**

**Chemical Equilibrium: the state reached when the concentrations of reactants and products remain constant over time.**

**Equilibrium constant (Kc): is a number unique to a specific reaction that depends on the concentration of the products, concentration of the reactants and the coefficients in the chemical equation.**

**Example:**

**aA + bB cC + dD**

**Kc = [C]c[D]d**

**[A]a[B]b**

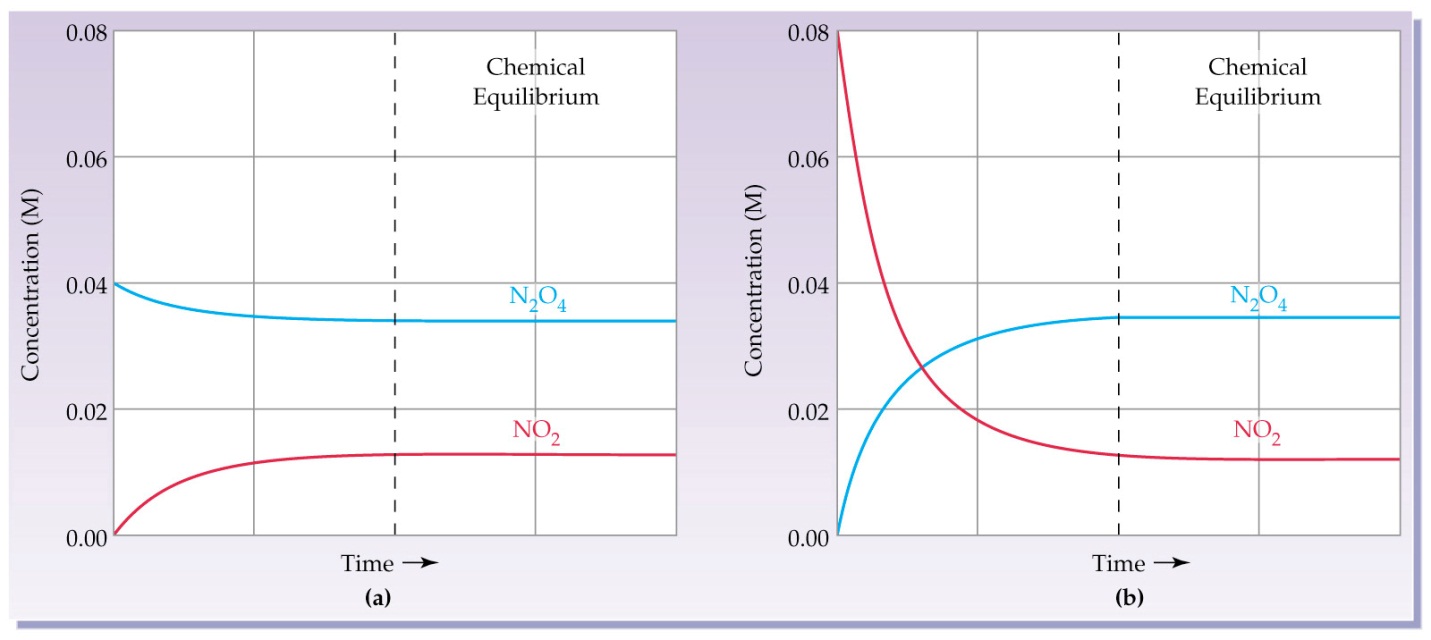
**[C]= concentration of product C. c = product C’s coeffiecient.**

**[D] = Concentration of product “D”. d = Product D’s coeeficient.**

**[A] = Concentration of reactant A. a = A’s Coefficient.**

**[B] = Concentration of reactant B. b = B’s coefficient.**

**Using a given table the equilibrium constant can be found along with a balanced chemical equation.**



**According to graph a the concentration of N2O4 at equilibrium is .0337 M/L and the concentration of the NO2 is .0125 M/L.**

**Example: Using the equation ant the given table what is the equilibrium constant for the decomposition of N2O4 (g)?**

**N2O4 (g) 2NO2**

**Kc = [NO2]2 / [N2O4] = (.0125)2 / .0337) =**

**4.64 x 10-3**