The Law of Mass Action

*Mass action* in science is the idea that a large number of small units, especially atoms or molecules, acting randomly by themselves can in fact have a larger pattern.

For the general chemical reaction:

\[ aA + bB \rightleftharpoons cC + dD \]

\[
K_c = \frac{[C]^c [D]^d}{[A]^a [B]^b} = \frac{[products]^{\text{coefficients}}}{[reactants]^{\text{coefficients}}}
\]

Where all are *equilibrium concentrations*.

Note: Since the concentrations of pure liquids and solids are constant, they are not written in the equilibrium constant expression.

\[
K_p = \frac{P_C^c P_D^d}{P_A^a P_B^b} = \frac{P_{products}^{\text{coefficients}}}{P_{reactants}^{\text{coefficients}}}
\]