Answer on Question#57575 – Chemistry – General chemistry

Question: What are Kp and Kc? What is the relation between them?

Answer: Kp and Kc are equilibrium constants.

Example, for reaction:

aA + bB ⇄ cC + dD.

$$Kc = \frac{[C]^c \cdot [D]^d}{[A]^a \cdot [B]^b}$$

Where [] is equilibrium concentration.

$$Kp = \frac{P_C{}^c \cdot P_D{}^d}{P_A{}^a \cdot P_B{}^b}$$

Where P is partial pressure

Relation between this constants:

$$Kp = Kc(RT)^{\Delta n}$$

Where R is universal gas constant; Δn is (number of moles of gaseous products) – (number of moles of gaseous reactants).