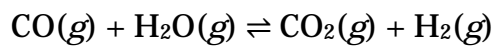


CHEM 101B Chapter 12 Equilibrium – PreEquilibrium and i.c.e. tables

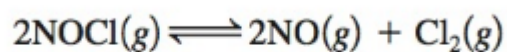
e.g.1 At 700K, $K_c = 5.10$ for the following reaction:



A 1.000-liter flask is charged with 1.000 mole of each species. Calculate the equilibrium concentrations of all species.

	CO(g)	+	H₂O(g)	⇌	CO₂(g)	+	H₂(g)
<i>Initial</i>							
<i>Change</i>							
<i>Equilibrium</i>							

57. At 35°C, $K = 1.6 \times 10^{-5}$ for the reaction



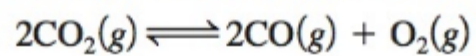
Calculate the concentrations of all species at equilibrium for each of the following original mixtures.

1.0 mole of NOCl and 1.0 mole of NO in a 1.0-L flask

5% Rule: Test the assumption that the “change” is less than 5% of the original value:

$$\frac{x}{[\text{orig conc}]} < 0.05$$

59. At a particular temperature, $K = 2.0 \times 10^{-6}$ for the reaction



If 2.0 moles of CO_2 is initially placed into a 5.0-L vessel, calculate the equilibrium concentrations of all species.

61. At 25°C, $K_p = 2.9 \times 10^{-3}$ for the reaction



In an experiment carried out at 25°C, a certain amount of NH_4OCNH_2 is placed in an evacuated rigid container and allowed to come to equilibrium. Calculate the total pressure in the container at equilibrium.

Any species that is not in the equilibrium phase--usually solution or gas phase--is not part of equilibrium expression (i.e. exclude solids)