

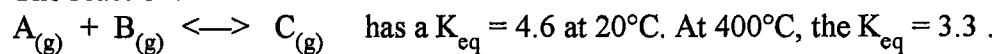
Chemistry 12

Worksheet on K_{eq}

Calculating K_{eq} and the Relation of K_{eq} to Endothermic and Exothermic Reactions

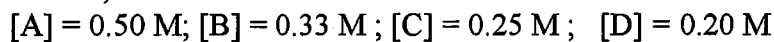
Name: _____ Date: _____

1. The reaction:

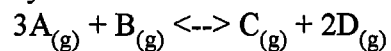


Is this reaction exothermic or endothermic? Explain .

2. At equilibrium, in a 2.0 L container:

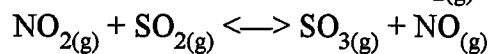


for the system:



What is the value of the equilibrium constant ?

3. The equation below shows the reaction between $\text{NO}_{2(g)}$ and $\text{SO}_{2(g)}$:

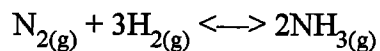


A mixture in a 10.0 L flask was analyzed at equilibrium and found to contain the following :

0.20 mol of $\text{NO}_{2(g)}$ 0.10 mol of $\text{SO}_{2(g)}$ 0.50 mol of $\text{SO}_{3(g)}$ 0.30 mol of $\text{NO}_{(g)}$

What is the equilibrium constant for this reaction?

4. The K_{eq} value for the Haber process,



at a particular temperature and pressure is 75. If the equilibrium $[\text{N}_2]$ is 0.023 M and $[\text{H}_2]$ is 0.078 M, what is the equilibrium $[\text{NH}_3]$?