

CH 223 Chapter Thirteen Study Guide

- Know the nature of equilibrium (reversible reactions, dynamic processes, etc.) Realize that while many chemical reactions are in equilibrium, many are simple “one-way” reactions as well.
- Be able to write an equilibrium constant expression for any reaction. Know how to find K_c or K_p given the appropriate information.
- Recognize that solids and liquids are not included in equilibrium constant expressions. Know how the expression can change depending on the stoichiometry of the reaction.
- Know how to convert K_c to K_p given appropriate information.
- Know the difference between initial concentration and equilibrium concentration. Be able to find the equilibrium constant based on this information.
- Understand the effect on K when two chemical reactions are combined together. Know the effect on K when the reaction is reversed, or when the reaction stoichiometry is doubled.
- Know when a value of K should be “product favored” or “reactant favored”.
- Realize the importance of the reaction quotient, Q , when deciding if the reaction is at equilibrium. Be able to predict the progress of the reaction based on the value of Q .
- Be able to apply Le Chatelier’s principle to predict the effect of a disturbance on a chemical equilibrium (change in temperature, change in concentration, change in volume, change in pressure, effect of exothermic or endothermic reactions, etc.)
- Understand the relationship between a reaction mechanism and on the kinetics of a reaction if one step in the mechanism involves a chemical equilibrium.
- Be able to solve and understand the assigned problems in problem set #1.