

CH 15 Equilibrium Study Guide

Dynamic Equilibrium

Dynamic Equilibrium – forward & reverse reaction rates are equal

- **ASSUME** all rxns are **ELEMENTAL** (1 step!)
- Reversible reaction - something constantly produced & consumed
 - Indicated by \rightleftharpoons

No net change in reactant or product concentrations

Equilibrium Constant, K_c

For a general equation:



$$K_c = \frac{k_f}{k_r} = \frac{[D]^d [E]^e}{[A]^a [B]^b}$$

- A. The equilibrium-constant depends only on the stoichiometry of the reaction, not the mechanism.
 B. **DOES NOT** depend on initial concentrations because *only* the **RATIO** of concentrations at equilibrium is the same
 C. **K** has **NO** units!
 D. **ONLY** consider gas & aqueous phases!!
 -OMIT solids & liquids

Significance of K

Value of K indicates if more products or reactants are present *at equilibrium*

- If K is large (>1): Products favored - Equilibrium lies to the right
- If K is small (<1): Reactants favored - Equilibrium lies to the left

Equilibrium Constant, K_p

For a general equation:

Only if ALL phases are gases!



Relating K_p and K_c

$$K_p = K_c (RT)^{\Delta n} ; \Delta n = [\sum (\text{moles GAS in product}) - \sum (\text{moles GAS in reactant})]$$

Dynamic Equilibrium Study Guide

Iris Stovall, Steven S. Zumdahl



Dynamic Equilibrium Study Guide:

Student Notebook and Study Guide to Accompany The Human Body Bruce Wingerd, Patty Bostwick Taylor, 2013-02-01

This Student Notebook and Study Guide the ideal companion to Bruce Wingerd s *The Human Body* reinvents the traditional study guide by giving students a tool to help grasp information in class and reinforce learning outside of class Too often students struggle to both learn the concepts presented and simultaneously record crucial information The Student Notebook and Study Guide provides a structure for recording in class material that parallels the text s concept presentation and includes supplemental questions and activities for assignment outside of the classroom A complete answer guide for both the in class and out of class materials is available online

Fundamentals of Chemistry, Study Guide James E. Brady, John R. Holum, 1988-04-20 This Third Edition of the widely used fundamentals textbook for science majors maintains the conversational writing style that made the previous editions so popular while including up to date treatments of important and current topics Emphasizes descriptive chemistry chemical reactions and properties while maintaining a solid treatment of chemical principles Common chemicals are used whenever possible as examples in both theoretical discussions and in problems and exercises Incorporates many pedagogical aids each chapter begins with a brief table of contents and each section begins with a preview of topics covered Chapters include frequent margin comments figures and photographs

Student Study Guide Peter L. Kresan, Reed Mencke, Frank Press, Raymond Siever, 2003-09-25 This reconceptualization of the text *Understanding Earth* reflects the fundamental changes in the field of physical geology over the past several years

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