

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

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

Dynamic Equilibrium Study Guide

Lauren Gardner



Dynamic Equilibrium Study Guide:

Reviewing **Dynamic Equilibrium Study Guide**: Unlocking the Spellbinding Force of Linguistics

In a fast-paced world fueled by information and interconnectivity, the spellbinding force of linguistics has acquired newfound prominence. Its capacity to evoke emotions, stimulate contemplation, and stimulate metamorphosis is actually astonishing. Within the pages of "**Dynamic Equilibrium Study Guide**," an enthralling opus penned by a highly acclaimed wordsmith, readers set about an immersive expedition to unravel the intricate significance of language and its indelible imprint on our lives. Throughout this assessment, we shall delve in to the book is central motifs, appraise its distinctive narrative style, and gauge its overarching influence on the minds of its readers.

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