

9515 (11)

$$P_4(g) \rightleftharpoons PCl_3(g) + 6Cl_2(g)$$

$-x$	$+x$	$+6x$
$1-x$	$x$	$6x$

Mole Ratio

$$K_c = \frac{[P] [Cl_2]^6}{[PCl_3]} = \frac{(x) (6x)^6}{1-x} = K$$

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$K_c = K$  for MOLARITY  
concentration      moles/l

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$K_p = K$  for PRESSURE  
 $PV = nRT$       GASES

$K_p = K_c (RT)^{\Delta n}$   
coeff      coeff      Moles Prod - Moles React

$$K = \frac{[Prod]^{coeff}}{[React]^{coeff}}$$

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$$\textcircled{14} \quad \underline{\text{C}_6\text{H}_6} + \underline{3\text{H}_2} \rightleftharpoons \underline{\text{C}_6\text{H}_{12}}$$

$I \frac{1}{200} = 0.005$	$\frac{3}{200} = 0.015$	$\text{C}_6\text{H}_{12}$
$\Delta - 6.85 \times 10^{-4}$	$-3(6.85 \times 10^{-4})$	$+ 6.85 \times 10^{-4}$
$E \quad \underline{4.315 \times 10^{-3}}$	$\underline{1.29 \times 10^{-2}}$	$\frac{0.137 \text{ mole}}{200\text{L}} = 6.85 \times 10^{-4}$

$$\textcircled{K} = \frac{[\text{C}_6\text{H}_{12}]}{[\text{C}_6\text{H}_6] [\text{H}_2]^3} = \frac{6.85 \times 10^{-4}}{(4.315 \times 10^{-3}) (1.29 \times 10^{-2})^3} = \textcircled{7.3 \times 10^4}$$

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