$$2NH_3 \rightleftharpoons N_2 + 3H_2$$

$$n_0 - 2x \qquad x \qquad 3x$$

Para $\alpha = 2x/n_0 \Rightarrow x = \frac{1}{2} n_0 \alpha$

$$n_0(1-\alpha) \qquad \frac{1}{2} n_0 \alpha \qquad \frac{3}{2} n_0 \alpha$$

$$n_{eq} = n_0 - n_0\alpha + \frac{1}{2} n_0 \alpha + \frac{3}{2} n_0 \alpha = n_0(1+\alpha)$$

$$K_c = \frac{[N_2][H_2]^3}{[NH_3]^2} = \frac{\frac{n_0\alpha}{2V} \cdot \frac{27 n_0^3 \alpha^3}{8 V^3}}{\frac{n_0^2 (1-\alpha)^2}{V^2}} = \left(\frac{n_0}{V}\right)^2 \frac{27\alpha^4}{16(1-\alpha)^2}$$

$$P_{eq} V = n_{eq} RT \rightarrow P_{eq} V = n_0(1+\alpha) RT \rightarrow \frac{n_0}{V} = \frac{P_{eq}}{RT(1+\alpha)}$$

$$K_c = \frac{P_{eq}^2 \cdot 27 \cdot \alpha^4}{16 \cdot (1+\alpha)^2 (1-\alpha)^2} \cdot (RT)^{-2} = \frac{10^2 \cdot 27 \cdot 0{,}9^4}{16 \cdot 1{,}9^2 \cdot 0{,}1^2} (0{,}082 \cdot 673)^{-2}$$

$$\boxed{K_c = 1{,}007} \left[\frac{mol^2}{\ell^2}\right]$$

$$K_p = 3067 \ [atm^2]$$