

15/06/2021

[MOLI]

$$V = 5L$$

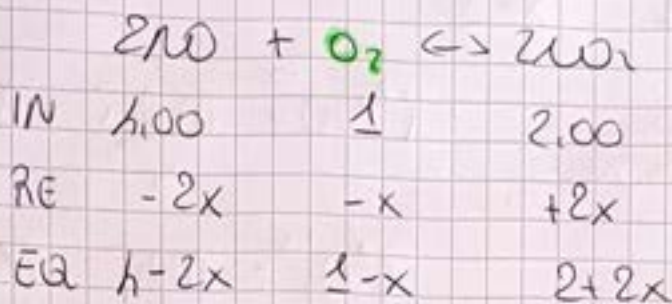
$$T = 300^\circ C$$

$$NO^{in} = 1,00 \text{ moli}$$

$$NO_2^{in} = 2,00 \text{ moli}$$

$$P_{tot eq} = 60,0 \text{ atm}$$

Determina  
 $K_c$



~~colore scuro~~  $\times$

IPOTESI  
PROPORZIONE

$\rightarrow$  Prodotto

$$2:2 = x:1$$

$$x = \frac{2 \times 1}{2} = 1 \text{ mole}$$

TRASFORMA A  
IN PRESSIONE  
IN MOLI

$$P_{tot eq} = \frac{PV}{RT} = \frac{60 \cdot 5}{0,0821 \cdot (273)} = 6,37 \text{ atm}$$

$$6,37 = 1 - 2x + 1 - x + 2 + 2x$$

$$6,37 = 6 - x \rightarrow x = 0,37$$

$$K_m = \frac{(0,71)^2}{(3,26)^2 (0,63)} = 1,21$$

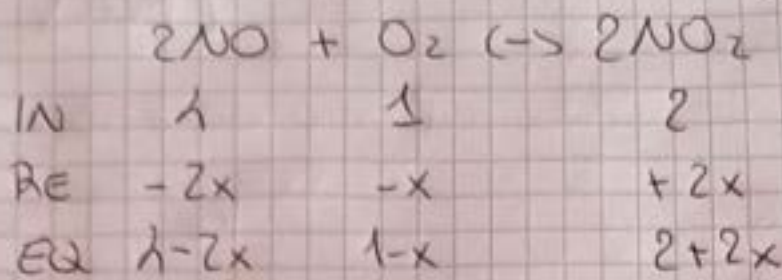
$$K_c = \frac{K_m}{V^{\Delta n}} = \frac{1,21}{5} = 6,05$$

$$\Delta n = 2 - (2+1) = -1$$

$$T = 300^\circ\text{C} \rightarrow 573\text{ K}$$

$$V = 5\text{ L}$$

[GAS]



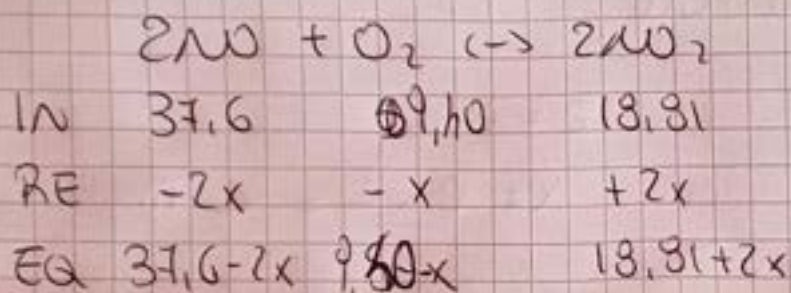
$$2 \cdot 2 = x \cdot 1 \quad x = 1$$

TRASFORMA  
IN PRESSIONE

$$P^{\circ}\text{NO} = \frac{nRT}{V} = 37,6 \text{ atm}$$

$$P^{\circ}\text{O}_2 = \frac{nRT}{V} = 9,5 \text{ atm}$$

$$P^{\circ}\text{NO}_2 = \frac{nRT}{V} = 18,91 \text{ atm}$$



$$P_{\text{tot O}_2} = P^{\circ}\text{NO} + P^{\circ}\text{O}_2 + P^{\circ}\text{NO}_2$$

$$60,0 = (37,6 - 2x) + (9,5 - x) + (18,91 + 2x)$$

~~x = 0,000000~~

$$x = 5,81$$

$$P^{\circ}\text{NO} = 25,98$$

$$P^{\circ}\text{O}_2 = 3,59$$

$$P^{\circ}\text{NO}_2 = 30,43$$

$$K_p = \frac{(30,43)^2}{(25,98)^2 (3,59)} = 0,382$$



$$K_e = \frac{K_p}{R_T^{\Delta m}} = K_p (R_T)^{\Delta} = 18$$

$$\Delta m = 2 - (2+1) = -1$$