

Site du problème // Annuaire

ON: $\frac{\phi_{\text{réagi}}}{N_2} = 7425 - 29,41$

d'après le schéma:

$$\frac{\phi^C}{N_2} = \frac{\phi^B}{N_2} - \frac{\phi_{\text{réagi}}}{N_2}$$

$$\frac{\phi_{\text{réagi}}}{N_2} = \frac{\phi^B}{N_2} - \frac{\phi^C}{N_2}$$

$$\frac{\phi_{\text{réagi}}}{N_2} = \frac{\phi^A}{N_2} + \frac{\phi^F}{N_2} - \frac{\phi^E}{N_2} - \frac{\phi^F}{N_2}$$

$$\frac{\phi_{\text{réagi}}}{N_2} = \frac{\phi^A}{N_2} - \frac{\phi^E}{N_2}$$

$$\frac{\phi_{\text{réagi}}}{N_2} = 2475 \text{ moles/l} - 2647 \text{ moles/l}$$

$$\frac{\phi_{\text{réagi}}}{N_2} = 221,03 \text{ moles/l}$$

$$\Rightarrow \frac{\phi^C}{N_2} = \frac{\phi^B}{N_2} - \frac{\phi_{\text{réagi}}}{N_2}$$

$$\frac{\phi^C}{N_2} = 649,33 - 221,03$$

$$\# \frac{\phi^C}{N_2} = 428,3 \text{ moles/l}$$

$$\# \frac{\phi^E}{N_2} = \frac{\phi^B}{N_2} = 10 + 151,80 =$$

$$\frac{\phi^E}{N_2} = 161,80 \text{ moles/l}$$

$$\# \frac{\phi^C}{N_2} = \frac{\phi^B}{N_2} - \frac{\phi_{\text{réagi}}}{N_2}$$

$$\Rightarrow \frac{\phi_{\text{réagi}}}{N_2} = \frac{\phi^B}{N_2} - \frac{\phi^C}{N_2} = \frac{\phi^A}{N_2} + \frac{\phi^F}{N_2} - \frac{\phi^E}{N_2} - \frac{\phi^F}{N_2}$$

$$\Rightarrow \frac{\phi_{\text{réagi}}}{N_2} = \frac{\phi^A}{N_2} - \frac{\phi^E}{N_2}$$

$$\frac{\phi_{\text{réagi}}}{N_2} = 663,09 \text{ moles/l}$$

$$\text{donc } \frac{\phi^C}{N_2} = \frac{\phi^B}{N_2} - \frac{\phi_{\text{réagi}}}{N_2}$$

ON: $\frac{\phi^C}{N_2} = 1948 - 663,09$

$$\frac{\phi^C}{N_2} = 1284,91 \text{ moles/l}$$

$$\# \frac{\phi^C}{N_2} = \frac{\phi^B}{N_2} + \frac{\phi^F}{N_2}$$

$\frac{\phi^F}{N_2} = ?$ d'après la réaction, $N_2 + 3H_2 \rightleftharpoons 2NH_3$

1 mole de N_2 donne 2 moles NH_3
3 mole H_2 donne 2 moles NH_3

donc: $\frac{\phi^F}{N_2} = 2 \frac{\phi_{\text{réagi}}}{N_2}$ (1)
ou bien $\frac{\phi^F}{N_2} = \frac{2}{3}$ mole NH_3 (2)

$$\Rightarrow \frac{\phi^F}{N_2} = 2 \times 221,03 = 442,06 \text{ moles/l}$$

$$\Rightarrow \frac{\phi^C}{N_2} = 442,06 + 26,19$$

$$\Rightarrow \frac{\phi^C}{N_2} = 468,25 \text{ moles/l}$$

$$\text{donc } \frac{\phi^C}{N_2} = \frac{\phi^C}{N_2} + \frac{\phi^E}{N_2} + \frac{\phi^F}{N_2} + \frac{\phi^C}{N_2}$$

$$= 428,3 + 161,80 + 1284,91 + 468,25$$

$$\frac{\phi^C}{N_2} = 2343,26 \text{ moles/l}$$

$$\# \frac{\phi^C}{N_2} = \frac{\phi^C}{\phi^E} \text{ (pour tous les éléments)}$$

$$\Phi_{NH_3}^+ = ?$$

Ans: $\Phi_{NH_3}^C = \Phi_{NH_3}^D + \Phi_{NH_3}^E + \Phi_{NH_3}^F$

$$\Rightarrow \Phi_{NH_3}^D = \Phi_{NH_3}^C - [\Phi_{NH_3}^E + \Phi_{NH_3}^F]$$

QW = $\Phi_{NH_3}^D = 468,85 - [126 + 26,79]$

$$\Phi_{NH_3}^D = 468,85 - 28,55$$

$$\Phi_{NH_3}^D = 440,3 \text{ kcal/mol}$$