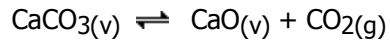


Vast calciumcarbonaat wordt in een vacuüm gezorgen vat gebracht bij 800 K.



De evenwichtsdruk van $\text{CO}_2(\text{g})$ bedraagt 0,220 bar.

a) Bereken K_p

b) Bereken K_c

Oplossing

a)

$$K_p = P_{\text{CO}_2(\text{g})}^{\text{ev}}$$

$$K_p = 0,220$$

b)

$$K_c = [\text{CO}_2(\text{g})]_{\text{ev}}$$

$$PV = nRT \Leftrightarrow P = \frac{n}{V}RT = [\dots]RT \Leftrightarrow [\dots] = \frac{P}{RT}$$

$$K_c = [\text{CO}_2(\text{g})]_{\text{ev}} = \frac{P_{\text{CO}_2(\text{g})}^{\text{ev}}}{RT} = \frac{K_p}{RT} = \frac{0,220 \text{ bar}}{8,314 \frac{\text{J}}{\text{mol}\cdot\text{K}} \cdot 800 \text{ K}} = \frac{0,220 \cdot 10^5 \frac{\text{N}}{\text{m}^2}}{8,314 \frac{\text{N}\cdot\text{m}}{\text{mol}\cdot\text{K}} \cdot 800 \text{ K}} = 3,31 \frac{\text{mol}}{\text{m}^3}$$

$$K_c = 3,31 \cdot 10^{-3} \left(\frac{\text{mol}}{\text{L}} \right)$$