

Cd-Zn çözümü 708 K Çinko'nun aktivite katsayısı verilmiştir. $x_{Cd} = 0,1$ kadının aktivitesi = ? ($a_{Cd} = ?$)

$$\ln \gamma_{Zn} = 0,87 x_{Cd}^2 - 0,3 x_{Cd}^3$$

$$\ln \gamma_{Zn} = 0,87 \times (0,1)^2 - 0,3 \times (0,1)^3$$

$$\ln \gamma_{Zn} = 8,7 \times 10^{-3} - 3 \times 10^{-4}$$

$$\ln \gamma_{Zn} = 8,4 \times 10^{-3}$$

$$x_{Cd} = 0,1$$

$$x_{Zn} = 0,9$$

$$\gamma_{Zn} = 1,008$$

$$a_{Zn} = \gamma_{Zn} \cdot x_{Zn}$$

$\downarrow \quad \downarrow$
 1,008 0,9

$$a_{Zn} = 0,904$$

$$RT \ln \gamma_{Zn} = -\Omega x_{Cd}^2$$

$\downarrow \quad \quad \quad \downarrow$
 8,314 708 $8,4 \times 10^{-3}$ $(0,1)^2$

$$8,314 \times 708 \times 8,4 \times 10^{-3} = -\Omega \times (0,1)^2$$

$$49,44 = -\Omega \times (0,1)^2$$

$$\Omega = 4344$$

$$RT \ln \gamma_{cd} = \Omega \times z_n^2$$

\downarrow \downarrow \downarrow
 8.314 708 4344 $(0.3)^2$

$$\underline{4004}$$

$$\ln \gamma_{cd} = 0.68$$

$$\gamma_{cd} = 1.97$$

$$a_{cd} = \gamma_{cd} \times X_{cd}$$

$$\downarrow \quad \downarrow$$

$1.97 \quad 0.1$

$$a_{cd} = 0.197$$