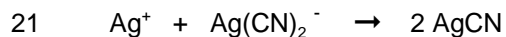
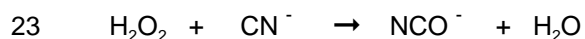


Cyanide in afvalwater



- 22 - nodig : $7,82 \times 0,0192 = 0,150 \text{ mmol Ag}^+$
- $0,150 \text{ mmol Ag}^+$ reageert met $0,300 \text{ mmol CN}^-$
- $0,300 \text{ mmol CN}^-$ zat in 200 mL afvalwater dus :
 $[\text{CN}^-] = 0,300 / 200 = 1,50 \times 10^{-3} \text{ mmol / mL} = 1,50 \times 10^{-3} \text{ mol / L}$
- het afvalwater bevatte : $1,50 \times 10^{-3} \times (12,0 + 14,0) = 3,90 \times 10^{-2} \text{ g} = 39,0 \text{ mg CN}^- \text{ per L}$



- 24 - $\text{pH} = 9,5$ dus $[\text{H}_3\text{O}^+] = 3,16 \times 10^{-10} \text{ mol / L}$
- $K_2 = [\text{H}_3\text{O}^+] \times [\text{CN}^-] / [\text{HCN}] = 6,1 \times 10^{-10} = 3,16 \times 10^{-10} \times [\text{CN}^-] / [\text{HCN}]$
- $[\text{CN}^-] / [\text{HCN}] = 6,1 \times 10^{-10} / 3,16 \times 10^{-10} = 1,93 = 1,93 / 1,00$
- percentage CN^- dat is omgezet tot $\text{HCN} = \{ 1,00 / (1,00 + 1,93) \} \times 100 \% = 3 \times 10 \%$