Cyanide in afvalwater

21 $Ag^+ + Ag(CN)_2^- \rightarrow 2\ AgCN$

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

23 $H_2O_2 + CN^- \rightarrow NCO^- + H_2O$

24
- pH = 9,5 dus $[H_3O^+] = 3{,}16 \times 10^{-10}$ mol / L
- $K_z = [H_3O^+] \times [CN^-] / [HCN] = 6{,}1 \times 10^{-10} = 3{,}16 \times 10^{-10} \times [CN^-] / [HCN]$
- $[CN^-] / [HCN] = 6{,}1 \times 10^{-10} / 3{,}16 \times 10^{-10} = 1{,}93 = 1{,}93 / 1{,}00$
- percentage CN^- dat is omgezet tot HCN = { 1,00 / (1,00 + 1,93) } x 100 % = 3 x 10 %