

## LAMPIRAN

### 1. Perhitungan

- a.  $\text{AgNO}_3$  0,1 M dalam 100 ml

Rumus :

Mencari gram dari  $\text{AgNO}_3$  0,1 M

$$\text{Gram} = M \times V \times \text{BM}$$

$$\text{Gram} = 0,1 \times 0,1 \times 170$$

$$= 1,7 \text{ gram}$$

- b.  $\text{K}_2\text{Cr}_4$  5% dalam 100 ml

$$\text{gram} = \frac{5}{100} \times 100 = 5$$

- c. Menghitung Kadar  $\text{Cl}^-$  outlet Produk

Diketahui :

Waktu (menit)	V titran (ml)	Kadar $\text{Cl}^-$ (ppm)
0	20	2858
8	17	2429
16	15	2143
24	13	1857
32	11	1572
40	8	1143
48	5	714
56	4	517

Konsentrasi  $\text{AgNO}_3$  0,1 M

Ditanyakan : Kadar  $\text{Cl}^-$  ?

Jawab :

$$\text{massa air} = \rho \text{ air} \times V \text{ air}$$

$$\text{massa air} = 0,99363 \frac{\text{gram}}{\text{ml}} \times 25 \text{ ml} = 24,84075 \text{ gram}$$

$$M \text{ Cl} = \frac{M \text{ AgNO}_3 \times V \text{ AgNO}_3}{V \text{ sampel}}$$

$$\text{massa Cl} = M \text{ Cl} \times V \text{ sampel (L)} \times \text{BM Cl}$$

$$\text{Kadar Cl} = \frac{\text{massa Cl}}{\text{massa air}} \times 100\% \times 10.000 \text{ ppm}$$

$$1. \quad M \text{ Cl} = \frac{0,1 \text{ M} \times 17 \text{ ml}}{25 \text{ ml}} = 0,068 \text{ M}$$

$$\text{massa Cl} = 0,068 \text{ M} \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,06035 \text{ gram}$$

$$\text{Kadar Cl} = \frac{0,06035 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 2429 \text{ ppm}$$

$$2. \quad M \text{ Cl} = \frac{0,1 \text{ M} \times 15 \text{ ml}}{25 \text{ ml}} = 0,06 \text{ M}$$

$$\text{massa Cl} = 0,06 \text{ M} \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,05325 \text{ gram}$$

$$\text{Kadar Cl} = \frac{0,05325 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 2143 \text{ ppm}$$

$$3. \quad M \text{ Cl} = \frac{0,1 \text{ M} \times 13 \text{ ml}}{25 \text{ ml}} = 0,052 \text{ M}$$

$$\text{massa Cl} = 0,052 \text{ M} \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,04615 \text{ gram}$$

$$\text{Kadar Cl} = \frac{0,04615 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 1857 \text{ ppm}$$

$$4. \quad M \text{ Cl} = \frac{0,1 \text{ M} \times 11 \text{ ml}}{25 \text{ ml}} = 0,044 \text{ M}$$

$$\text{massa Cl} = 0,044 \text{ M} \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,03905 \text{ gram}$$

$$\text{Kadar Cl} = \frac{0,03905 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 1572 \text{ ppm}$$

$$5. \quad M \text{ Cl} = \frac{0,1 \text{ M} \times 8 \text{ ml}}{25 \text{ ml}} = 0,032 \text{ M}$$

$$\text{massa Cl} = 0,032 \text{ M} \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,0284 \text{ gram}$$

$$\text{Kadar Cl} = \frac{0,0284 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 1143 \text{ ppm}$$

$$6. \quad M_{Cl} = \frac{0,1 M \times 5 \text{ ml}}{25 \text{ ml}} = 0,02 M$$

$$\text{massa Cl} = 0,02 M \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,01775 \text{ gram}$$

$$Kadar Cl = \frac{0,01775 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 714 \text{ ppm}$$

$$7. \quad M_{Cl} = \frac{0,1 M \times 4 \text{ ml}}{25 \text{ ml}} = 0,016 M$$

$$\text{massa Cl} = 0,016 M \times 25 \times 10^{-3} \times 35,5 \text{ gr/L} = 0,0142 \text{ gram}$$

$$Kadar Cl = \frac{0,0142 \text{ gram}}{24,84075 \text{ gram}} \times 100\% \times 10.000 \text{ ppm} = 571 \text{ ppm}$$