

D. ANALISIS DATA

1. Massa NaOH yang akan dipakai untuk membuat 50 mL larutan NaOH 2 M

Diketahui:

$$V_{\text{NaOH}} = 50 \text{ mL} = 0,05 \text{ L}$$

$$M_{\text{NaOH}} = 2 \text{ M}$$

$$M_{\text{rNaOH}} = 40 \text{ gr/mol}$$

Ditanyakan: $m = \dots?$

Penyelesaian:

$$m = \frac{M \cdot M_r \cdot V}{1000}$$

$$m = \frac{2 \frac{\text{mol}}{\text{mL}} \times 40 \frac{\text{gr}}{\text{mol}} \times 50 \text{ mL}}{1000}$$

$$m = \frac{4000 \text{ gr}}{1000}$$

$$m = 4 \text{ gr}$$

Pembuatan larutan HCl 2 M, 1 M dan 0,1 M dari HCl 6 M.

- a. Volume HCl 6 M untuk membuat 50 mL larutan HCl 2 M

Diketahui:

$$M_1 = 6 \text{ M}$$

$$M_2 = 2 \text{ M}$$

$$V_2 = 50 \text{ mL}$$

Ditanyakan: $V_1 = \dots?$

Penyelesaian:

$$M_1 V_1 = M_2 V_2$$

$$V_1 = \frac{M_2 V_2}{M_1}$$

$$V_1 = \frac{2 \text{ M} \times 50 \text{ mL}}{6 \text{ M}}$$

$$V_1 = 16,67 \text{ mL}$$

- b. Volume HCl 2 M

Diketahui:

$$M_1 = 2 \text{ M}$$

$$M_2 = 1 \text{ M}$$

$$V_2 = 50 \text{ mL}$$

Ditanyakan: $V_1 = \dots?$

$$M_1 V_1 = M_2 V_2$$

$$V_1 = \frac{M_2 V_2}{M_1}$$

$$V_1 = \frac{1 \text{ M} \times 50 \text{ mL}}{2 \text{ M}}$$

$$V_1 = 25 \text{ mL}$$

- c. Volume HCl 1 M untuk membuat larutan 0,1 M.

Diketahui:

$$M_1 = 1 \text{ M}$$

$$M_2 = 0,1 \text{ M}$$

$$V_2 = 50 \text{ mL}$$

Ditanyakan: $V_1 = \dots?$

Penyelesaian:

$$M_1 V_1 = M_2 V_2$$

$$V_1 = \frac{M_2 V_2}{M_1}$$

$$V_1 = \frac{0,1 \text{ M} \times 50 \text{ mL}}{1 \text{ M}}$$

$$V_1 = 5 \text{ mL}$$