

Report No. (6)

Reaction Stoichiometry: Determination of The Limiting Reactant and Yield Percentage

Student Names: ..... Section No: .....

The objective of the experiment:

.....

Reaction equation:

.....

Results and calculations:

| $m_{\text{Na}_2\text{CO}_3}$ | $V_{\text{HCl}}$ | $M_{\text{HCl}}$ |
|------------------------------|------------------|------------------|
|                              |                  |                  |

(Molar masses ( g/mol ) : H = 1, C = 12 , O = 16, Na = 23, Cl = 35. 5)

$Mw_{\text{Na}_2\text{CO}_3} =$

1. The limiting reactant:

the number of moles that used in the experiment:

| $n_{\text{Na}_2\text{CO}_3}$ | $n_{\text{HCl}}$ |
|------------------------------|------------------|
|                              |                  |

The limiting reactant is.....

**2. The yield percentage:**

| $\mathbf{m}_{INITIAL}$ | $\mathbf{m}_{TOTAL \text{ product}}$ |
|------------------------|--------------------------------------|
|                        |                                      |

- **Calculate the mass of NaCl produced ( $m_{\text{NaCl}}$ ):**
- **Calculate the number of moles of NaCl ( $n_{\text{NaCl, theoretical}}$ ):**
- **Determined ( $m_{\text{NaCl, theoretical}}$ ):**
- **The yield percentage of NaCl:**